MPEG4 Network DVR

User Manual

(K Series)

Please read instructions thoroughly before operation and retain it for future reference.

The image shown above may differ from the actual product appearance.

IMPORTANT SAFEGUARD

CAUTION

RISK OF ELECTRIC SHOCK

CAUTION:
To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.
Only operate this apparatus from the type of power source indicated on the label.
The company shall not be liable for any damages arising out of any improper use,
even if we have been advised of the possibility of such damages.

Graphic Symbol Explanation

	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
RoHS conform	All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.
	The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.
CE	This apparatus is manufactured to comply with the radio interference requirements.

Disclaimer

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. The content of this manual is subject to change without notice.

MPEG4 Licensing

THIS PRODUCT IS LICENSED UNDER THE MPEG4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG4 VISUAL STANDARD (“MPEG4 VIDEO”) AND/OR (ii) DECODING MPEG4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE MPEG4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE HTTP://WWW.MPEGLA.COM.

GPL Licensing

This product contains codes which are developed by Third-Party-Companies and which are subject to the GNU General Public License (“GPL”) or the GNU Lesser Public License (“LGPL”).

The GPL Code used in this product is released without warranty and is subject to the copyright of the corresponding author.

Further source codes which are subject to the GPL-licenses are available upon request.

We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

ftp://ftp.dvrtw.com.tw/GPL/AV071/

Version

Firmware: 1248-1012-1035-1018-M1-6C1B
Video Viewer: 0099

TABLE OF CONTENTS

1. OVERVIEW 1

1.1 Features 1
1.2 Specifications 2
1.3 Package Contents 3

2. FRONT AND REAR PANELS 4

2.1 Front Panel 4
2.2 Rear Panel 7

3. CONNECTIONS AND SETUP (Take 16CH DVR as an example) 8

3.1 HDD Installation 8
3.2 Camera Connection 9
3.3 Power Setup 9
3.4 Date and Time Setting 9
3.5 Password Setting 10

4. BASIC OPERATION (Take 16CH DVR as an example) 11

4.1 Live Page 11
4.2 Recording 11
4.3 Playback 12
4.5 Upgrade 12
4.6 Search 13

5. MAIN MENU 14

5.1 Menu Configuration 14
5.2 Menu Operation Instruction 14

6. QUICK START MENU 15

6.1 Status 15
6.2 Manual Record 16
6.3 Timer 16
6.4 Date 18

7. ADVANCED MENU (Take 16CH DVR as an example) 20

7.1 Advanced Configuration 20
    7.1.1 Camera 20
    7.1.2 Detection 21
    7.1.3 Alert 22
    7.1.4 Network 24
    7.1.5 Display 26
    7.1.6 Record 27
    7.1.7 Remote *(Selected Models Only)* 28
7.2 System Info 29
7.3 Event Log 30
    7.3.1 Quick Search 30
    7.3.2 Event Search 31
    7.3.3 HDD Info 31
    7.3.4 Event Log 32
7.4 Backup 32

7.4.1 USB BACKUP 33

8. REMOTE OPERATION (Take 16CH DVR as an example) 34

8.1 Supplied Licensed Software AP 34
8.1.1 Installation & Network Connection 34
8.1.2 AP Control Panel 35
8.1.3 General AP Operation 36
8.1.4 AP Functions 38
8.2 IE Web Browser 57
8.3 QuickTime Player 59

APPENDIX 1 PIN CONFIGURATION 60

APPENDIX 2 COMPATIBLE USB FLASH DRIVE BRAND 63

APPENDIX 3 COMPATIBLE HDD BRAND 64

APPENDIX 4 RECORDING TIME TABLE 66

APPENDIX 5 TROUBLESHOOTING 68

APPENDIX 6 DEFAULT VALUE 69

1. OVERVIEW

1.1 Features

- **MPEG4 Network Transmission**
  - MPEG4 web transmitting for faster transmission and clearer images via network
- **Graphical and Multilingual OSD Interface**
  - Graphical and multilingual OSD Interface for easier operation
- **Excellent CIF Image Quality and Performance**
  - The CIF image quality is highly improved for more clear and detailed image
- **Flexible Function Control Solution with Removable Control Panel**
  - The control panel of the DVR can be removed and used as a remote controller
- VGA Output Support *(Selected Models Only)*
  - Built-in VGA interface
  - Resolution output up to 1600 x 1200
- Intelligent Channel Selection Design *(Selected Models Only)*
  - In order to simplify the layout of the DVR front panel, certain 16CH DVR models uses only 8 buttons to switch the channel display
- Multiplex operation
  - Allow live display, record, playback, backup, and network operations at the same time
- Free upgrade to advanced functions
  - Allow you to upgrade DVR functions without any charges
- Backup function
  - Support USB 2.0 flash drive and network backup
- Remote surveillance
  - Support remote surveillance up to 20 users simultaneously via the licensed software AP, Internet Explorer / Mozilla Firefox web browser, & QuickTime player
- Intelligent motion trigger recording
  - With the advanced functions of motion detection (4 different adjustable factors for motion detection sensitivity)
  - Support pre-alarm recording (8MB)
- Covert recording
  - A mask replaces the live image with a blank screen and the monitor shows nothing, but the recording is still on
- Audio Support
  - 16CH & 8CH: Support 4 audio-in, 1 audio-out to record sounds
  - 4CH (Fan model only): Support 1 audio-in, 1 audio-out to record sounds
- General
  - System auto recovery after power reconnected
  - Support auto video system detection (NTSC / PAL)
  - Support daylight saving function
  - Support TCP/IP, PPPOE, DHCP and DDNS network connection

1.2 Specifications

MODEL	16CH	8CH	4CH
Video System	NTSC / PAL (auto detection)		
Video Compression Format	MPEG4		
Video Input (Composite video signal 1 Vp-p 75Ω BNC)	16 Channels	8 Channels	4 Channels
Video Output	Composite video signal 1 Vp-p 75Ω BNC		
VGA Interface Built-in	Selected Models Only (Output resolution up to 1600 x 1200)		
Maximum Recording Rate (Frame)	704x480 pixels with 30 IPS <NTSC> / 704×576 pixels with 25 IPS <PAL>		
Maximum Recording Rate (Field)	704x240 pixels with 60 IPS <NTSC> / 704×288 pixels with 50 IPS <PAL>		
Maximum Recording Rate (CIF)	352x240 pixels with 120 IPS <NTSC> / 352×288 pixels with 100 IPS <PAL>		
Adjustable Recording Speed (Frame)	30, 15, 7, 3 IPS <NTSC> / 25, 12, 6, 3 IPS <PAL>		
Adjustable Recording Speed (Field)	60, 30, 15, 7 IPS <NTSC> / 50, 25, 12, 6 IPS <PAL>		
Adjustable Recording Speed (CIF)	120, 60, 30, 15 IPS <NTSC> / 100, 50, 25, 12 IPS <PAL>		
Multilingual OSD	YES		
Image Quality Setting	Best / High / Normal / Basic		
Hard Disk Storage (HDDs are optional)	Accommodate 2 HDDs		Accommodate 1 HDD
SATA Interface	Selected Models Only		
HDD Quick Cleaning	Quick clean up the “index system” of the recorded files (1TB under 2 seconds)		
Recording Mode	Manual / Timer / Motion / Alarm / Remote		
Watermark	YES		
Refresh Rate	480 IPS for NTSC / 400 IPS for PAL	240 IPS for NTSC / 200 IPS for PAL	120 IPS for NTSC / 100 IPS for PAL
Multiplex Operation	Pentaplex: live display, record, playback, backup and network		
Audio I/O	4 audio inputs, 1 audio output (Mono)		Fan model only: 1 audio input, 1 audio output (Mono)
Motion Detection Area	16 × 12 grids per camera for all channels		
Motion Detection Sensitivity	4 adjustable variables with precise calculation for motion detection		
Pre-alarm Recording	Yes (8 MB)		
Backup Device	**1. USB 2.0 flash drive; 2. Network**		
USB Interface	Front panel * 1		
Web Transmitting Compression Format	**MPEG4**		
Ethernet	10/100 Base-T. Support remote control and live view via Ethernet		
Remote Operation Software	**Licensed software AP / Internet Explorer or Mozilla Firefox web browser / QuickTime** *Operating System: Windows 2000, XP & Vista / Apple Mac		
Network Protocol	TCP/IP / PPPOE / DHCP / DDNS		
IR Transmitter	YES		
Alarm I/O	16 inputs, 1 output	8 inputs, 1 output	4 inputs, 1 output
Picture Zoom	2X digital zoom		
Key Lock	YES		
Video Loss Detection	YES		
Camera Title	Support up to 6 letters		
Video Adjustable	Hue / Color / Contrast / Brightness		
Date Display Format	YY/MM/DD, DD/MM/YY, MM/DD/YY, and OFF		
Daylight Saving	YES		
Power Source	DC 19V		
Power Consumption	＜64 W		
Operating Temperature	10℃ ~ 40℃ (50℉~104℉)		
Dimensions (mm)	430(W) × 65(H) × 300(D)		343(W) × 59(H) × 223(D)
System Recovery	System auto recovery after power failure		
Optional Peripheral	Keyboard Controller		

* The specifications are subject to change without notice.

1.3 Package Contents

- ☐ Digital video recorder (DVR)
- ☐ Adapter and power cord
- ☐ Quick start & IR remote control manual
- ☐ CD-ROM (including manual & licensed software “Video Viewer”)
- ☐ Vertical panel sticker for remote controller *(Selected Models Only)*
- ☐ HDD bracket screws (spare parts)
- ☐ DSUB PIN connector
- ☐ AAA size battery * 2

Note: Before using the IR remote controller, please install the batteries first.

2. FRONT AND REAR PANELS

2.1 Front Panel

1) LED Indication

The following LEDs will be on when:

⏻: Power is connected
HDD: HDD is reading or recording / HDD Full: HDD is full
🔔: Any event alarm is triggered
🕒: Timer recording is activated

Note: To turn off your DVR, please disconnect the power supply.

2) (USB port)

To quickly backup or upgrade firmware/OSD, you can insert a compatible USB flash drive into this USB port. Before using the USB flash drive, please use your PC to format the USB flash drive as “FAT32” first.

Note: For the list of compatible USB flash drives, please refer to “APPENDIX 2 COMPATIBLE USB FLASH DRIVE BRAND” at page 63.

3) IR receiving zone

If the control panel is removed from the DVR and used as a remote controller, aim the remote controller at this area (near the USB port) to control the DVR operation.

4) (Lock mode) / (Unlock mode)

To lock the remote controller back to the DVR, switch the lock button to the left “” (lock mode).
To remove the control panel from the DVR and use as a remote controller, switch the lock button to the right “” (unlock mode).

Note: *Selected Models Only*

A vertical panel sticker may be supplied within the sale package. This sticker is used when the DVR front panel is removed from the DVR and used as a remote controller. Please place it on the controller for operation convenience.

5) (Menu)

Press to enter / exit the quick start menu.
In the sub-layer of the advanced setting menu,
press to confirm the settings and go back to the upper layer.

6) LIVE

Press to stop the playback and return to the live mode.

7) Channel Display Selection

- 16CH DVR with VGA interface built-in

0 ~ 9
Under the live or playback mode, press the channel number you want for channel switch.

- 16CH DVR without VGA interface built-in

/ / / (Quad selection mode)
Under the live or playback mode, press one of these four buttons to select the quad display mode.

: Display **Quad 1** mode (4-cut view of CH1, CH2, CH5 and CH6). : Display **Quad 2** mode (4-cut view of CH3, CH4, CH7 and CH8).
: Display **Quad 3** mode (4-cut view of CH9, CH10, CH13 and CH14). : Display **Quad 4** mode (4-cut view of CH11, CH12, CH15 and CH16).

/ / / (Channel selection under quad selection mode)

In the quad display mode, press one of these four buttons to select the channel display.

: Display the upper left channel of the selected quad mode. : Display the upper right channel of the selected quad mode.
: Display the lower left channel of the selected quad mode. : Display the lower right channel of the selected quad mode.

- 8CH DVR with VGA interface built-in

0 ~ 9
Under the live or playback mode, press the channel number you want for channel switch.

- 8CH DVR without VGA interface built-in

/ / / / / / / (Channel selection)

Press one of these buttons to select the channel display CH1 ~ CH8.

- 4CH DVR

/ / / (Channel selection)

Press one of these buttons to select the channel display CH1 ~ CH4.

8) / / / or (16-cut channel display / 9-cut channel display / 4-cut channel display)

Press one of these buttons to switch the channel display.
: Display **16-cut display** (for 16CH DVR).
: Display **9-cut display** (for 16CH, 8CH DVR).
/ : Display **4-cut display** (for 8CH DVR).
: Display **4-cut display** (for 4CH DVR).

9) / (Quad Sequence / Full Sequence)

Press one of these buttons to activate the sequence mode.
: Press to activate the **Quad Sequence** mode and press again to exit. *(Selected Models Only)*
: Press to activate the **Full Sequence** mode and press again to exit.

10) / / / (Number buttons for password entering)

Use these four buttons to enter the DVR password.

11) CH– / CH+

Use these two buttons to select the live or playback sound of the audio channels.

- Live audio of the 1st audio channel
- Live audio of the 2nd audio channel
- Live audio of the 3rd audio channel
- Live audio of the 4th audio channel
- The audio channel is not selected.
- Playback audio of the 1st audio channel
- Playback audio of the 2nd audio channel
- Playback audio of the 3rd audio channel
- Playback audio of the 4th audio channel

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

12) (Key lock)

Press to lock keys on the DVR front panel.

13) (Digital zoom)

Press to enlarge the image of the selected channel.

14) ▲ / ▼ / ◄ / ►

Press one of these direction buttons to move the cursor up/down/left/right.
Under the DVR menu mode, these direction buttons can use for the following operation:
▲ ▼: Make the selection / Change the settings
◄ ►: Go to the upper layer or sub-layer / Make the selection

15) (Enter)

Confirm the password entering.
In the advanced menu, press to confirm the settings and go back to the upper layer.

16) LIST (Event List Search)

To quick search the recorded files by event list, press to show all types of the event lists.

ALARM	List the information of the alarm-trigger-recorded files.
MANUAL	List the information of the manual-recorded files. The DVR will save one recorded file once any recording setting is changed.
MOTION	List the information of the motion-trigger-recorded files.
SYSTEM	List the information of the system-recorded files. The DVR system will save one recorded file every one hour.
TIMER	List the information of the timer-recorded files.

17) LATEST

Press to playback the latest recorded video.

18) STOP

Press to stop playback and return to the live mode.

19) SLOW

Under the playback mode, press to slowly playback the recorded file (by 1/4 speed or 1/8 speed).

20) ◄◄ / ▮▮ /►►

Under the playback mode, press these buttons to fast rewind / pause / fast forward the playback file.

2.2 Rear Panel

1) INPUT (1 ~ 16CH / 1 ~ 8CH / 1 ~ 4CH)

Connect to video sources, such as cameras.

Note: The DVR will automatically detect the video system of the camera, please make sure that the cameras are properly connected to the DVR and power-supplied before the DVR is turned on.

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function.
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

---

2) MONITOR

Connect to a CRT monitor for video output.

3) Audio IN

Connect to audio sources, such as cameras equipped with the audio function.
When users start recording, the audio input will also be recorded with corresponding video channel.

Note: The audio source connected to the “Audio 1” will be recorded with the video of the “CH1”.
The audio source connected to the “Audio 2” will be recorded with the video of the “CH2”.
The audio source connected to the “Audio 3” will be recorded with the video of the “CH3”.
The audio source connected to the “Audio 4” will be recorded with the video of the “CH4”.

---

4) Audio OUT

Connect to a monitor or speaker with 1 mono audio output.

5) IR

Connect the IR receiver extension line for remote control.

6) EXTERNAL I/O

Insert the supplied 25 / 15 PIN DSUB to this port for connecting external devices (external alarm, etc).
For detailed I/O port PIN configuration, please refer to “APPENDIX 1 PIN CONFIGURATION” at page 60.

7) LAN

Connect to Internet by LAN cable.

8) LINK ACT.

When your DVR is connected to the Internet, this LED will be on.

9) DC 19V

Connect to the supplied adapter.

10) RS485 *(Selected Models Only)*

Connect to external devices (such as speed dome cameras) with RS485-A and RS485-B wires.

11) VGA *(Selected Models Only)*

Connect to a TFT monitor directly.

12) Fan *(Selected Models Only)*

The fan equipment is optional.

3. CONNECTIONS AND SETUP (Take 16CH DVR as an example)

3.1 HDD Installation

The HDDs must be installed before the DVR is turned on.

Step 1: Loose the screws on the upper cover and open the upper cover of the DVR.

Step 2: Screw out the L-shape HDD brackets. Two brackets are used to secure a HDD, and there are four of them.

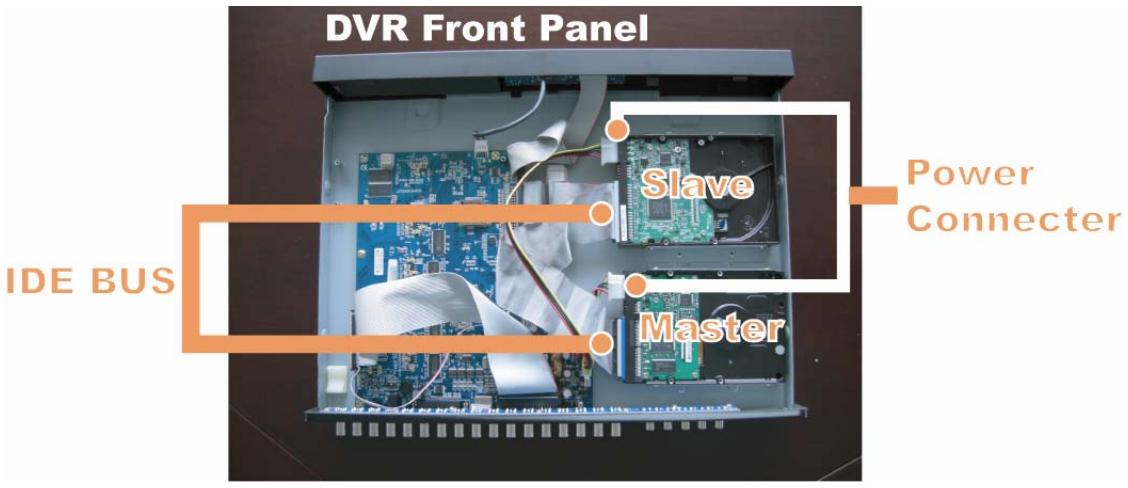
Step 3: Get at least one compatible HDD.
If your DVR supports IDE HDDs, set the HDD mode to **Master** or **Slave** depending on where the HDD will be installed. For details, please refer to the illustration below.

Note: HDD mode setting rule:
Master if you want to install the HDD to the place near the back panel;
Slave if you want to install the HDD to the place near the front panel.

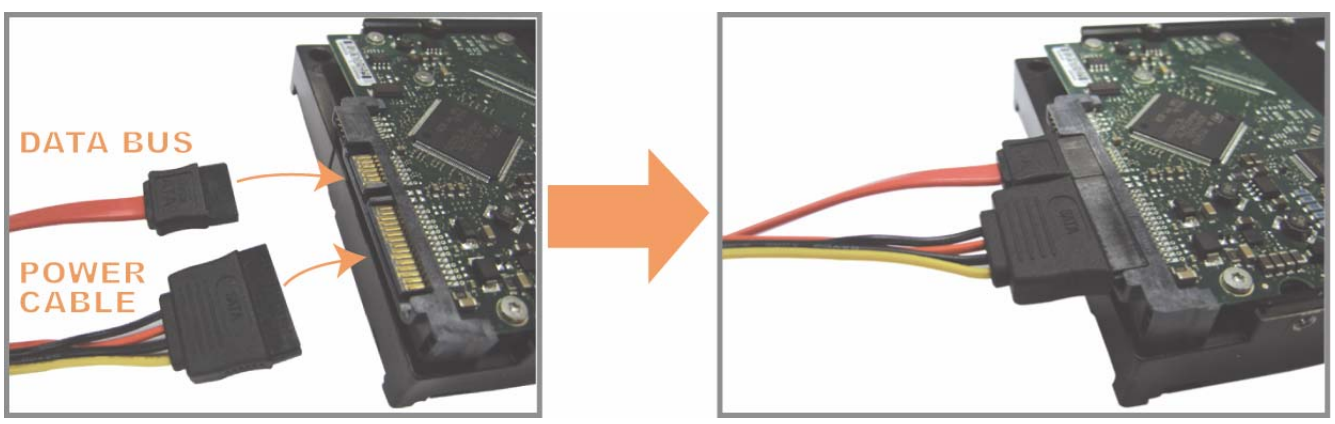
If your DVR supports SATA HDDs, please skip to Step 4.

Step 4: Attach the bracket to one side of the HDD, and align the screw holes of the bracket with the HDD's screw holes. Screw the HDD onto the HDD bracket, two screws for each side. Then, do the same thing to the other side of the HDD.

Step 5: ***If your DVR supports IDE HDDs***, connect the HDD to the power connector and IDE BUS (make sure to align the HDD precisely for pin connection).
Make sure the HDD mode is set to "Master" or "Slave" as indicated below for the IDE BUS connection.



If your DVR supports SATA HDDs, connect the HDD with the data bus and power cable as indicated below.



Step 6: Screw the two HDD brackets back to the DVR base.

Step 7: Close the upper cover of the DVR, and fasten all the screws you loosened in Step 1.

3.2 Camera Connection

The cameras must be connected and power-supplied **BEFORE** the DVR is turned on. The DVR will automatically detect the video system of the connected camera(s) (NTSC / PAL), and switch itself to the correct system.

Connect the camera with the indicated power supply, and connect the camera video output to the DVR video input port with a coaxial cable or RCA lines with BNC connectors.

Note: For detailed DVR video input / output ports, please refer to "2.2 Rear Panel" at page 7.
For detailed camera operation, please refer to its own manual.

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

3.3 Power Setup

This device should be operated only with the type of power source indicated on the manufacturer's label. Connect the indicated AC power cord to the power adapter, and plug into an electrical outlet. Power LED "⏻" will be on as blue. It takes approximately 10 to 15 seconds to boot the system.

Note: To ensure that your DVR works constantly and properly, it's recommended to use an UPS, Uninterruptible Power Supply, for continuously operation. (Optional)

3.4 Date and Time Setting

Before operating your DVR, please set the date and time on your DVR **FIRST**.

Note: Please DO NOT change the date or time of your DVR after the recording function is activated. Otherwise, the recorded data will be disordered and you will not be able to find the recorded file to backup by time search. If users change the date or time accidentally when the recording function is activated, it's recommended to clear all HDD data, and start recording again.

Note: For the first time to use the DVR, please charge the DVR for at least 48 hours continuously after the date & time is set correctly.

Press , and enter the password to go to the quick-start menu list. The default admin password is 0000. Move to , and you can set the date / time / daylight saving in this menu list.

QUICK START			
	CHANNEL TITLE		ON
	EVENT STATUS		ON
	DATE DISPLAY		ON
	IMAGE SIZE		CIF
	QUALITY		BEST
	IMAGE PER SECOND		120
	RECORD TIMER		OFF
	DETECTION TIMER		OFF
	DATE	2007 / AUG / 08	21 : 30 : 00
	FORMAT		Y / M / D
	DAYLIGHT SAVING		OFF

ADVANCE ↑↓ SELECT ← BACK → NEXT ↵ ENTER

3.5 Password Setting

Press and enter the password to go to the quick-start menu list. And then move to “ADVANCE” to enter the advanced setting menu.

In the “ADVANCE” menu, move to “ SYSTEM INFO ”. Select “PASSWORD” and press to enter the submenu to set the password (four digits). The default admin password is 0000.

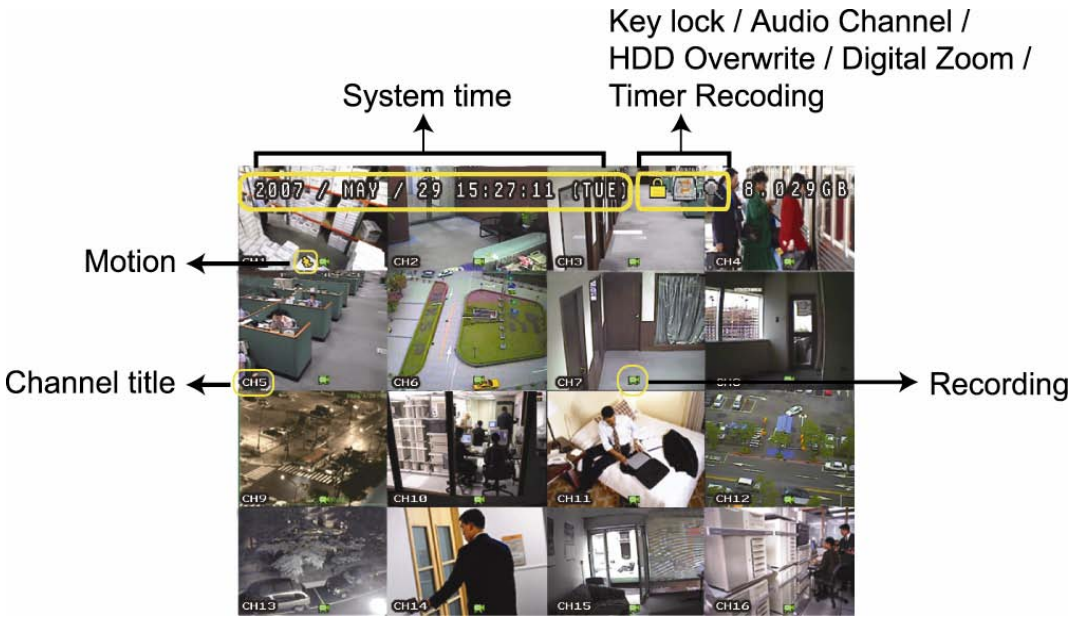
SYSTEM INFO		
	SERIAL TYPE	RS485
	BAUD RATE	2400
	HOST ID	0
	PASSWORD	XXXX
	RESET DEFAULT	RESET
	CLEAR HDD	HDD-MASTER-1
	UPGRADE	START
	AUTO KEYLOCK (SEC)	30
	LANGUAGE	ENGLISH
	VIDEO FORMAT	NTSC
	VERSION	1248-1012-1035-1018-M1-6C1B

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

4. BASIC OPERATION (Take 16CH DVR as an example)

4.1 Live Page

In this live page of the DVR, you can see the live viewing of 1- / 4- / 9- / 16-cut screen.



Icon	Function	Icon	Function	Icon	Function	Icon	Function
	Key lock		Key unlock		1st live audio channel		2nd live audio channel
	3rd live audio channel		4th live audio channel		1st playback audio channel		2nd playback audio channel
	3rd playback audio channel		4th playback audio channel		Audio channel unselected		Digital zoom mode
	Digital zoom unselected		Timer recording		Motion		Recording
	Alarm		HDD overwrite *(Selected Model Only)*				

4.2 Recording

When the recording and the pre-alarm function are activated, this device will overwrite 8GB data from the oldest for continuous recording without notice.

1) Continuous Recording Icon

When the DVR is properly connected with camera, you can see the icon " " (recording) on the screen.

2) Event Recording Icon

When the motion / alarm detection is activated, once motion or external alarm happens, you will see the icon " " (motion) or " " (external alarm) on the screen.

3) Timer Recording Icon

When the timer record is activated, you will see the icon " " (timer) on the screen.

Note: The audio source connected to the "Audio 1" will be recorded with the video of the "CH1".
The audio source connected to the "Audio 2" will be recorded with the video of the "CH2".
The audio source connected to the "Audio 3" will be recorded with the video of the "CH3".
The audio source connected to the "Audio 4" will be recorded with the video of the "CH4".

Note: A new log will be added in the system log when the HDD data is overwritten or the recording starts after DVR reboots.

4.3 Playback

Press "**LATEST**" on the DVR control panel, and the device will playback the latest recorded video.

Note: There must be at least 8192 images of recorded data for playback to work properly. If not, the device will stop playback. For example, if the IPS is set to 30, the recording time should be at least 273 seconds (8192 images / 30 IPS) for the playback to work properly.

---

1) Fast Forward (►►) / Fast Rewind (◄◄)

You can increase the speed for fast forward and rewind on this device. In the playback mode:
Press "►►" once to get 4X speed forward and press twice to get 8X speed, etc. And the maximum speed is 32X.
Press "◄◄" once to get 4X speed rewind and press twice to get 8X speed, etc. And the maximum speed is 32X.

Note: During playback, the image size of the recording (Frame, Field or CIF) will be shown on the screen.

---

2) Pause (❚❚) / Image Jog

Press "❚❚" to pause the playback.
In the Pause mode:
Press "►►" once to get one frame forward.
Press "◄◄" once to get one frame rewind.

3) Stop

Press "STOP" under playback mode, and the screen of this device will return to live monitoring mode.

4) Slow Playback

Press "SLOW" to get 1/4X speed playback and press twice to get 1/8X speed playback.

5) Audio Playback (CH− / CH+)

Use these two buttons to select the live or playback sound of the audio channels.

- Live audio of the 1st audio channel
- Live audio of the 2nd audio channel
- Live audio of the 3rd audio channel
- Live audio of the 4th audio channel
- The audio channel is not selected.
- Playback audio of the 1st audio channel
- Playback audio of the 2nd audio channel
- Playback audio of the 3rd audio channel
- Playback audio of the 4th audio channel

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

4.5 Upgrade

Note: Do not disconnect the power of your DVR while the upgrade process is in progress, or the DVR functions may not work properly or be unable to use.

- **Firmware / Multilanguage OSD Upgrade**

1) Use USB to upgrade firmware or OSD:

Step 1. Format the USB memory device as FAT 32 format first.

Step 2. Get the upgrade files from your distributor, and save the upgrade files in your USB flash device (do not change the file name).

Step 3. Insert your USB flash drive into the USB port. Wait till the DVR detects your USB flash drive.

Step 3. Press “MENU”, and move to “ADVANCE” → “ ” (SYSTEM INFO). Select “UPGRADE” → “START”, and press “ ”.

Step 4. Select “YES”, and press to confirm the upgrade.

2) Use AP software to remotely upgrade firmware or OSD:

Step 1. Save the upgrade files at your PC (do not change the file name), and log into the Video Viewer.

Step 2. Click “ ” (Miscellaneous Control) to show the miscellaneous control panel. In the miscellaneous control panel, click “ ” (Tools) on the miscellaneous control panel to enter the upgrade window.

Step 3. Enter the user name, password, IP address and port number of the DVR.

Step 4. Click “Firmware” or “Language” tab as needed, and click “Add” to select the firmware or OSD files to upgrade.

Step 5. Click “Update Firmware” or “Update Language” to start the upgrade.

Note: For remote upgrade details, please see “Tools” at page 51.

4.6 Search

1) Search by List

Press “LIST” on the DVR control panel to show the list for all types of the recorded files. Choose the list you want to view and press to start playback.

ALARM	List the information of the alarm-trigger-recorded files.
MANUAL	List the information of the manual-recorded files. The DVR will save one recorded file once any recording setting is changed
MOTION	List the information of the motion-trigger-recorded files.
SYSTEM	List the information of the system-recorded files. The DVR system will save one recorded file every one hour.
TIMER	List the information of the timer-recorded files.

2) Search by Time

In the “ ” (EVENT LOG) menu list, move to “QUICK SEARCH”, and press to enter the quick search menu. You can search any specific events by time (Year / Month / Day / Hour / Min) and directly play the file you find.

3) Search the Record Event on Video Viewer

Click “ ” (Miscellaneous Control) to show the miscellaneous control panel. In the miscellaneous control panel, click “ ” (Status List) to enter the “Status List” page. In this page, you can see the list of three different types of recording (User / Motion / Alarm) and click “Play” to directly playback the file.

5. MAIN MENU

5.1 Menu Configuration

QUICK START MENU		STATUS	CHANNEL TITLE
			EVENT STATUS
			DISK DISPLAY
		RECORD	IMAGE SIZE
			QUALITY
			IMAGE PER SECOND
		TIMER	RECORD TIMER
			DETECTION TIMER
		DATE	DATE
			FORMAT
			DAYLIGHT SAVING
ADVANCED MENU		ADVANCE CONFIG	CAMERA
			DETECTION
			ALERT
			NETWORK
			DISPLAY
			RECORD
			REMOTE *(Selected Models Only)*
		SYSTEM CONFIG	SERIAL TYPE
			BAUD RATE
			HOST ID
			PASSWORD
			RESET DEFAULT
			CLEAR HDD
			UPGRADE
			AUTO KEYLOCK (SEC)
			LANGUAGE
			VIDEO FORMAT
			VERSION
		EVENT LOG	QUICK SEARCH
			EVENT SEARCH
			HDD INFO
			EVENT LOG
		BACKUP	USB BACKUP

5.2 Menu Operation Instruction

ITEM	FUNCTION
QUICK START MENU:	**View & change the settings of the quick start menu items.**
MENU	Enter / exit the quick start menu
▲ ▼	Make the selection / Change the setting
◄ ►	Go to the upper layer or sub-layer / Make the selection
ENTER	Confirm the password entering
▼ ADVANCED MENU:	**In the quick start menu, move to "▼", and press "▼" to enter the advanced setting menu.**
ENTER	Go to the sub-layer of the advanced menu
MENU	Under the sub-layer of the advanced setting menu, use this button to confirm the settings and go back to the upper layer.
→ NEXT	Move to this item and press ENTER to go the next page.
← BACK	Move to this item and press ENTER to go the previous page.
	Other operations in the advanced menu are the same as in the quick start menu.

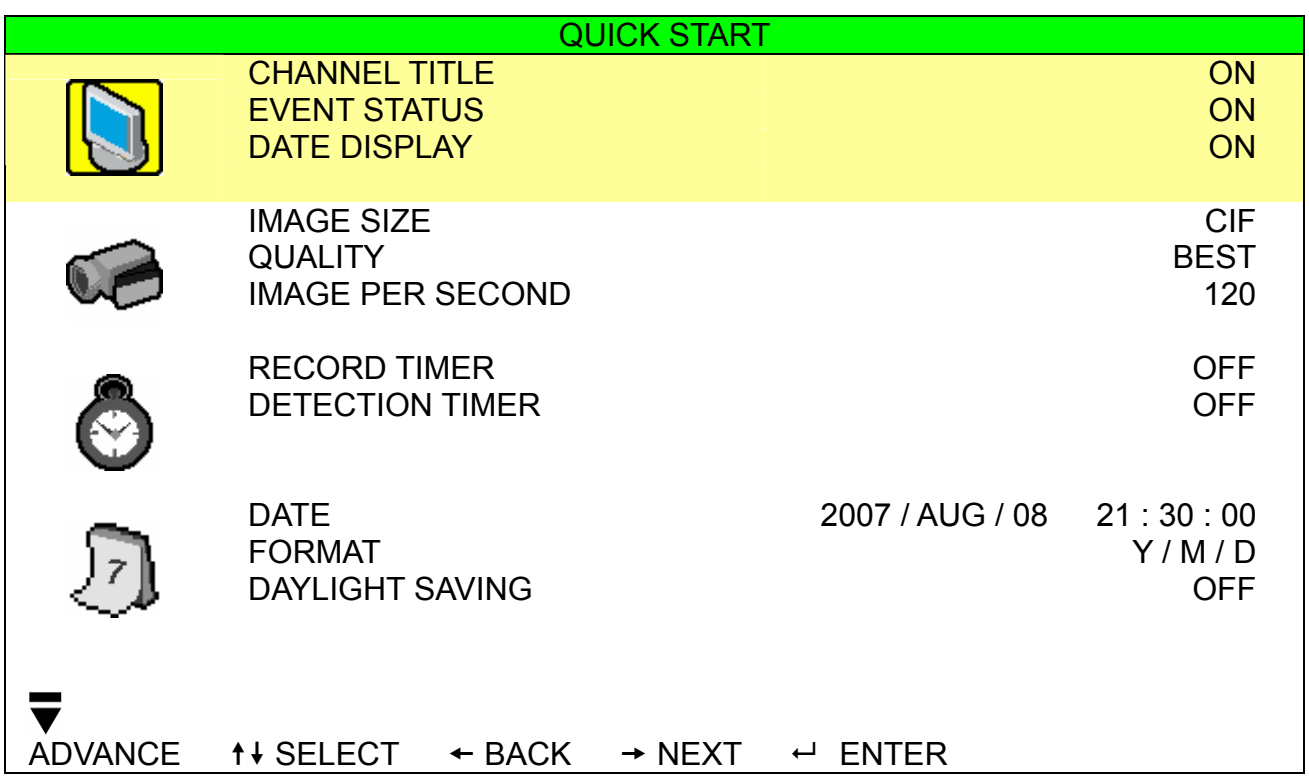
6. QUICK START MENU

Press and enter the password to go to the quick-start menu list. The default admin password is 0000. Users can change the password later. Please refer to “7.2 System Info” at page 29.

6.1 Status

In this menu list, you can check and change some display settings.

Move to and you will see the following screen:


QUICK START
CHANNEL TITLE ON
EVENT STATUS ON
DATE DISPLAY ON
IMAGE SIZE CIF
QUALITY BEST
IMAGE PER SECOND 120
RECORD TIMER OFF
DETECTION TIMER OFF
DATE 2007 / AUG / 08 21 : 30 : 00
FORMAT Y / M / D
DAYLIGHT SAVING OFF
ADVANCE ↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) CHANNEL TITLE

Select to display the channel title or not (ON / OFF).

2) EVENT STATUS

Select to display the symbols of the event or not (ON / OFF).

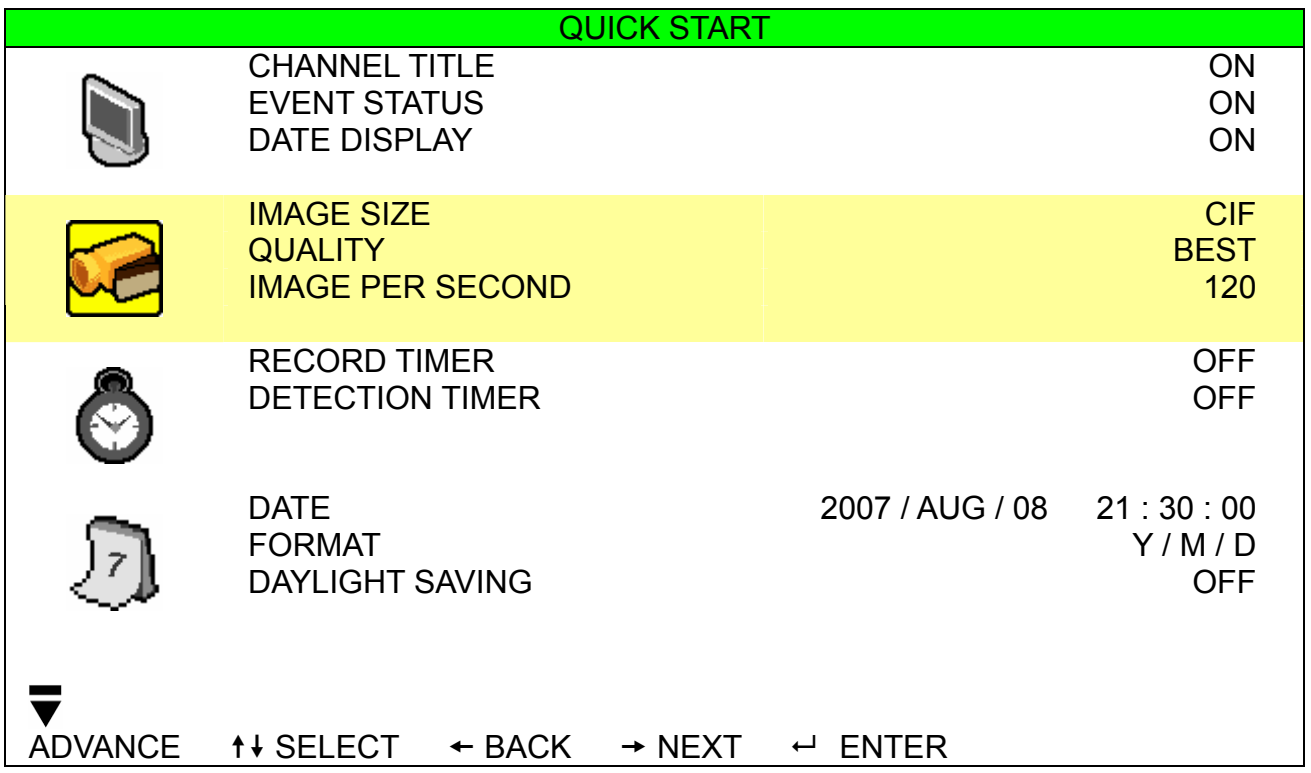
3) DATE DISPLAY

Select to display the date or not (ON / OFF)

6.2 Manual Record

In this menu list, you can set record settings.

Move to and you will see the following screen:


QUICK START
CHANNEL TITLE ON
EVENT STATUS ON
DATE DISPLAY ON
IMAGE SIZE CIF
QUALITY BEST
IMAGE PER SECOND 120
RECORD TIMER OFF
DETECTION TIMER OFF
DATE 2007 / AUG / 08 21 : 30 : 00
FORMAT Y / M / D
DAYLIGHT SAVING OFF
ADVANCE ↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) IMAGE SIZE

Select one of the image sizes: FRAME, Field or CIF.

2) QUALITY

Select one of the 4 quality options: BEST, HIGH, NORMAL and BASIC.

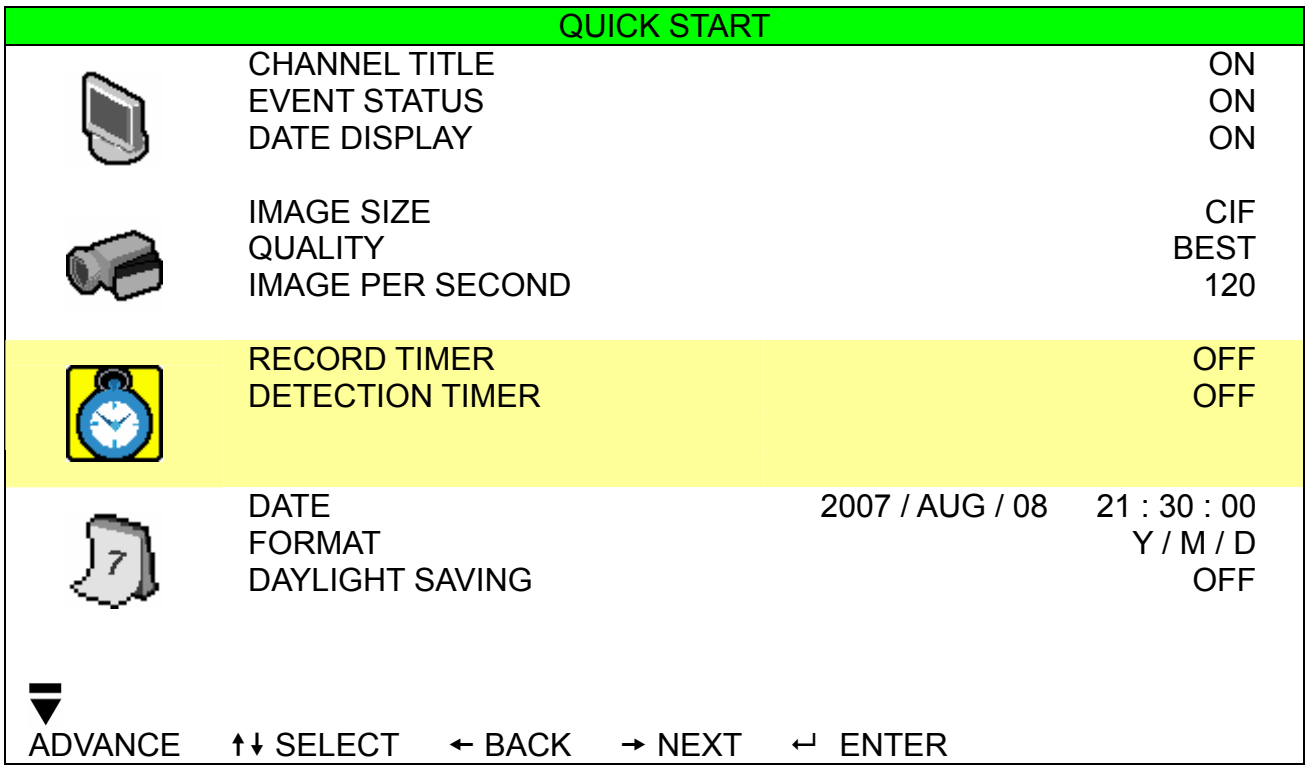
3) IMAGE PER SECOND

Select the images per second for MANUAL RECORD.

6.3 Timer

In this menu list, you can schedule different sets of time for recording and detection function.

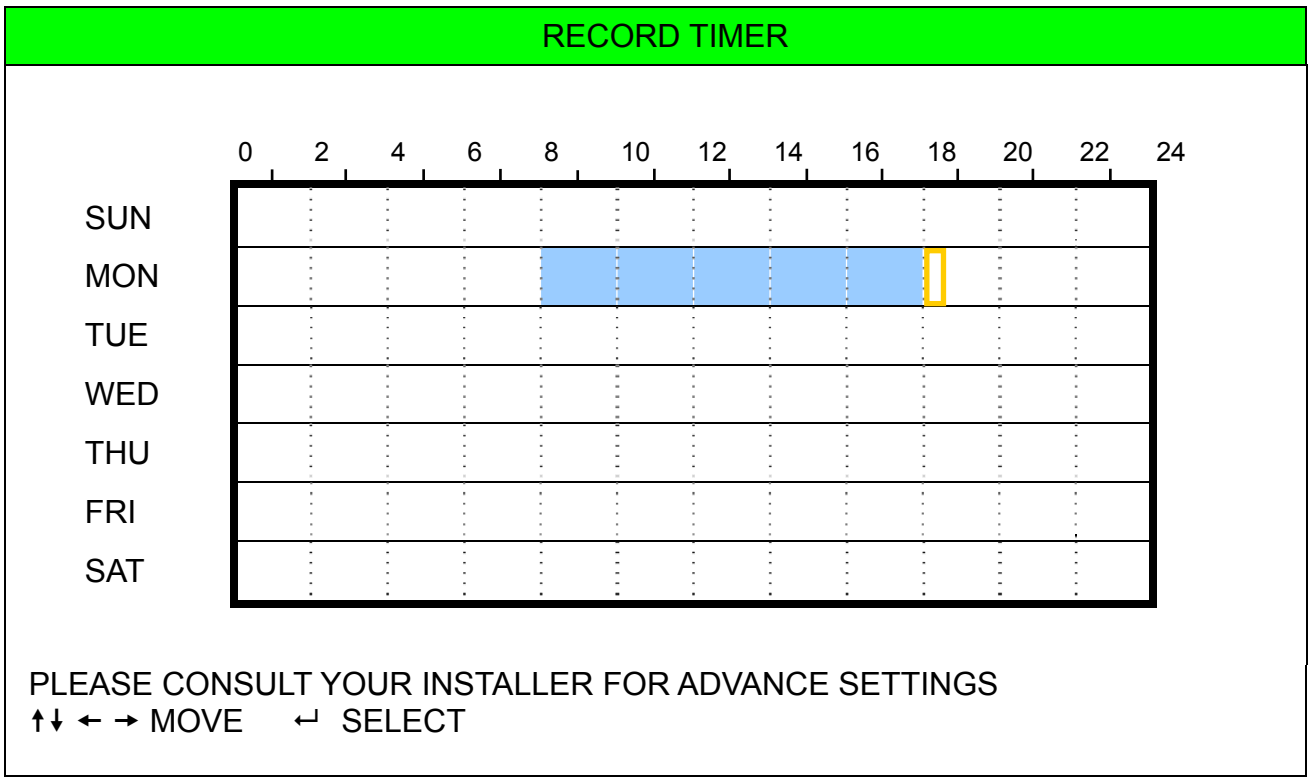
Move to and you will see the following screen:


QUICK START
CHANNEL TITLE ON
EVENT STATUS ON
DATE DISPLAY ON
IMAGE SIZE CIF
QUALITY BEST
IMAGE PER SECOND 120
RECORD TIMER OFF
DETECTION TIMER OFF
DATE 2007 / AUG / 08 21 : 30 : 00
FORMAT Y / M / D
DAYLIGHT SAVING OFF
ADVANCE ↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) RECORD TIMER

Use ▲ / ▼ to change the setting (ON / OFF). When it's set to "ON", press ↵ to go to its submenu for further settings.



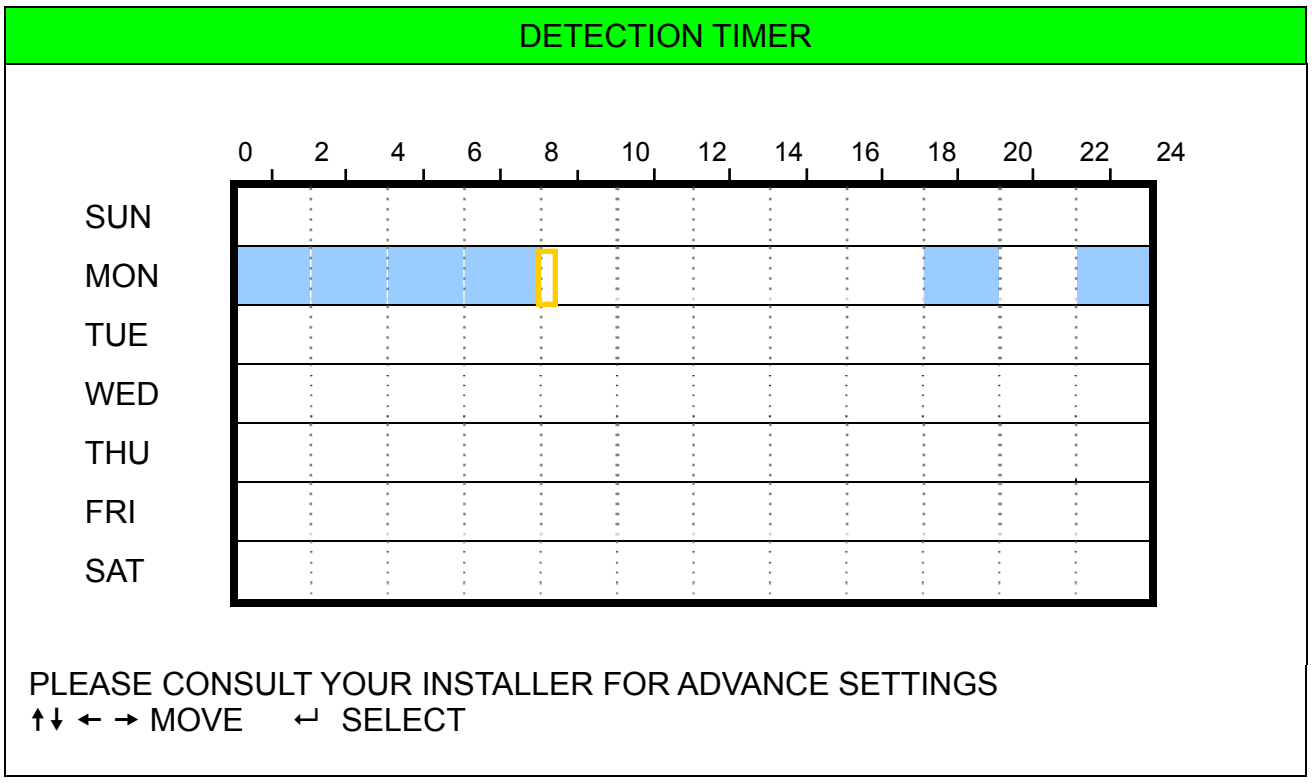
X axis 0 ~ 24 hours. Each time interval within a square is two hours (divided into four 30-minutes).

Y axis Monday ~ Sunday.

Operation Move to the start time point, and press enter to set the start time point (marked in red color). Then, press ▲ / ▼ / ◄ / ► to set the timer-recording schedule. After setup, press ↵ again to create an ending time point (marked in yellow color) and press "▤" to exit.

2) DETECTION TIMER

Use ▲ / ▼ to change the setting (ON / OFF). When it's set to "ON", press ↵ to go to its submenu for further settings.



X axis 0 ~ 24 hours. Each time interval within a square is two hours (divided into four 30-minutes).

Y axis Monday ~ Sunday.

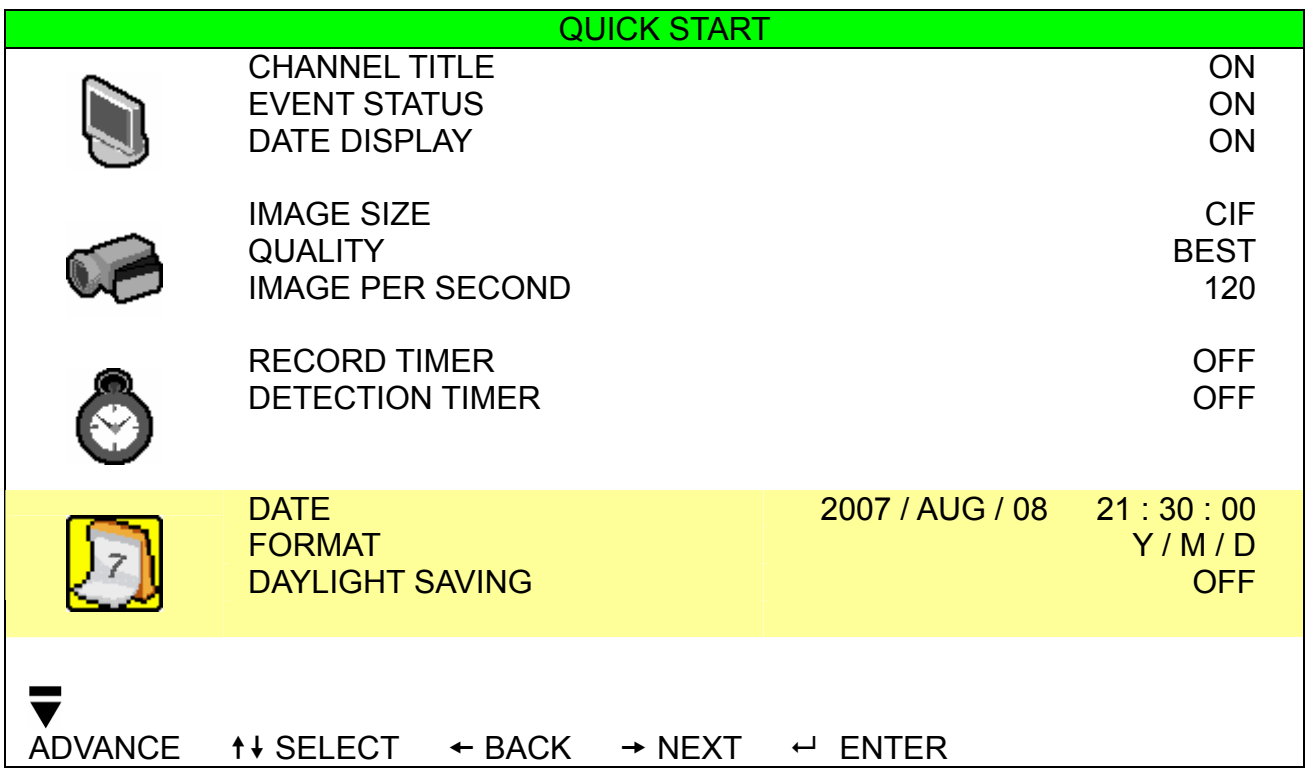
Operation Move to the start time point, and press enter to set the start time point (marked in red color). Then, press ▲ / ▼ / ◄ / ► to set the timer-recording schedule. After setup, press ↵ again to create an ending time point (marked in yellow color) and press "📄" to exit.

Note: This function here is only for detection timer setup and activation. For motion detection function setup and activation, please refer to "7.1.2 Detection" at page 21.

6.4 Date

In this menu list, you can set up the system date and time for this device.

Press 📄 to enter the main menu list. Move to 📅 and you will see the following screen:


QUICK START
CHANNEL TITLE ON
EVENT STATUS ON
DATE DISPLAY ON
IMAGE SIZE CIF
QUALITY BEST
IMAGE PER SECOND 120
RECORD TIMER OFF
DETECTION TIMER OFF
DATE 2007 / AUG / 08 21 : 30 : 00
FORMAT Y / M / D
DAYLIGHT SAVING OFF
ADVANCE ↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) DATE

Set the current date and time. The default order is “YEAR – MONTH – DATE HOUR : MIN : SEC”.

2) FORMAT

Select one date format from the following 3 options: Y-M-D / M-D-Y / D-M-Y.

3) DAYLIGHT SAVING

Use the ▲ / ▼ to specify whether to use daylight-saving time (ON / OFF). When it’s set to “ON”, press ↵ to go to its submenu for further settings.

DAYLIGHT SAVING		
START TIME	4TH – SUN – MAR	24 : 00 : 00
END TIME	4TH – SUN – OCT	24 : 00 : 00
ADJUST		01 : 00

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Set the start time and end time, and adjust the daylight saving time in hour. The above example means during the daylight-saving time period (starting from the 4th Sunday of March and ending on the 4th Sunday of October), the system time will plus one hour. After setup, press enter button again to create an ending time point and press to exit.

7. ADVANCED MENU (Take 16CH DVR as an example)

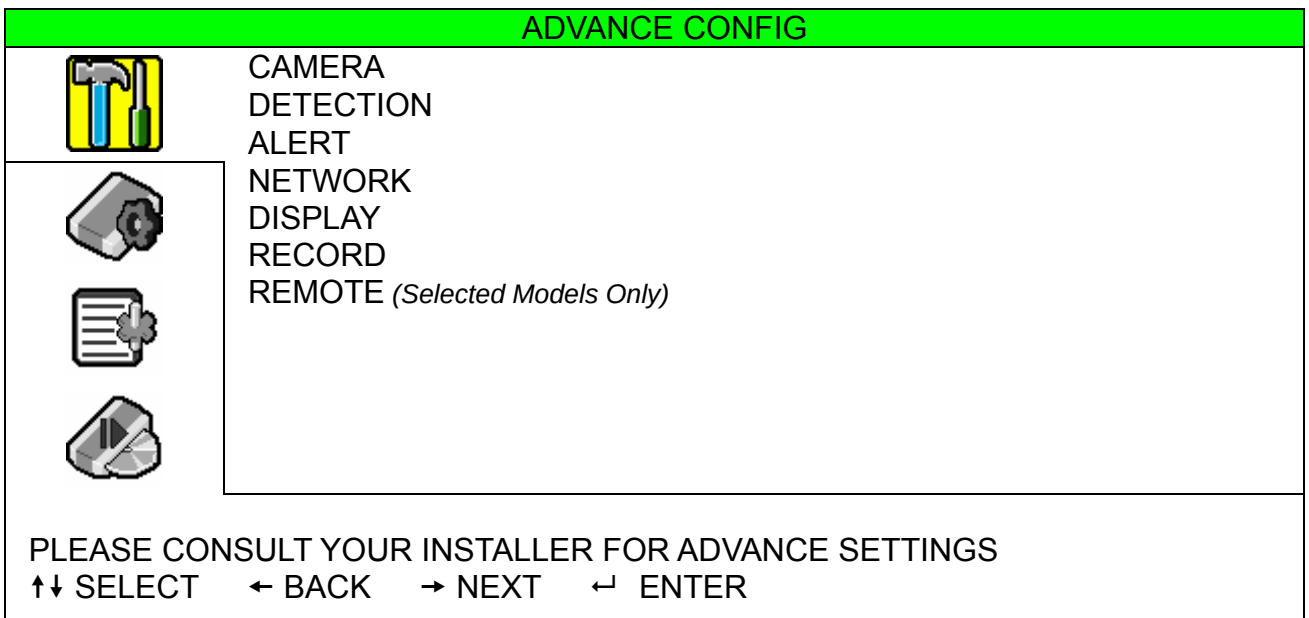
Press and enter the password to go to the quick-start menu list. And then move to “ADVANCE” to enter the advanced setting menu. The default admin password is 0000. Users can change the password later. Please refer to the “7.2 System Info” at page 29.

It is recommended to consult your installer to set up this advanced menu.

7.1 Advanced Configuration

In this menu list, you can check or change CAMERA / DETECTION / ALERT / NETWORK / DISPLAY / RECORD / REMOTE settings.

Move to “ ” (ADVANCE CONFIG) icon and you will see the following screen:



7.1.1 Camera

In this submenu, you can make advanced camera settings, such as changing the camera title, or adjust the brightness. Move to “CAMERA”, and press . You will see the following screen:

CAMERA

TITLE	BRIG	CONT	SATU	HUE	COV.	REC
CH1	128	098	128	128	OFF	ON
CH2	128	098	128	128	OFF	ON
CH3	128	098	128	128	OFF	ON
CH4	128	098	128	128	OFF	ON
CH5	128	098	128	128	OFF	ON
CH6	128	098	128	128	OFF	ON
CH7	128	098	128	128	OFF	ON
CH8	128	098	128	128	OFF	ON
CH9	128	098	128	128	OFF	ON
CH10	128	098	128	128	OFF	ON
CH11	128	098	128	128	OFF	ON
CH12	128	098	128	128	OFF	ON

NEXT

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below. While you changing the camera setting, you can ***preview*** the changing on the screen.

1) TITLE

You can change the default camera naming here. The default title is the channel number.

Move to the camera title you want to change, and press ↵ on the control panel of the DVR to access the character selection screen. Assign a new name to the camera up to six characters (letters or symbols or numbers).

2) BRIG / CONT / SATU / HUE

You can adjust the brightness/contrast/saturation/hue of each channel here. The value is adjustable from 0 to 255.

3) COV

Select if you want to mask the selected channel under recording (ON / OFF). When this function is activated, the wording “COV.” Will be shown on the channel screen.

4) REC

Select if you want to enable recording for the selected channel (ON / OFF). When this function is activated, the symbol “ ” will be shown on the channel screen.

7.1.2 Detection

In this submenu, you can set up detection-related functions.

Move to “DETECTION”, and press ↵. You will see the following screen:

DETECTION

TITLE	DET	AREA	LS	SS	TS	RE	ALARM
CH1	OFF	SETUP	07	03	02	10	OFF
CH2	OFF	SETUP	07	03	02	10	OFF
CH3	OFF	SETUP	07	03	02	10	OFF
CH4	OFF	SETUP	07	03	02	10	OFF
CH5	OFF	SETUP	07	03	02	10	OFF
CH6	OFF	SETUP	07	03	02	10	OFF
CH7	OFF	SETUP	07	03	02	10	OFF
CH8	OFF	SETUP	07	03	02	10	OFF
CH9	OFF	SETUP	07	03	02	10	OFF
CH10	OFF	SETUP	07	03	02	10	OFF

NEXT

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) TITLE

Show the camera title of each channel set in “CAMERA”.

2) DET

Select if you want to activate the motion detection function for the selected channel (ON/OFF).

3) AREA

There are 16 × 12 grids per camera for all channels. Pink blocks represent the area that is not being detected while the transparent blocks are the area under detection.

Press ↵ on the control panel of the DVR to set the detection area. You will see similar screens as the following:

Transparent blocks are the area under detection.

Press ↵ to confirm the start area.

Press ◄ / ► to choose the width of the detection area.

Press ▲ / ▼ to choose the height of the area.

You can also set up multi-detection area.

When any movement is detected, you will see the grids are flashing.

4) LS (Level of Sensitivity)

"LS" is to set the sensitivity of comparing two different images. The smaller the value is, the higher sensitivity for motion detection. The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default value is 07.

5) SS (Spatial Sensitivity)

"SS" is to set the sensitivity for detecting the size of one object (the number of the grids) on the screen. The smaller the value is, the higher sensitivity for motion detection.

The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 03.

Note: The default setting of SS is 03, which means once an object is detected more than 3 grids, the system will get triggered. So the value of SS must be less than the number of grids that you set up for the motion detection area.

6) TS (Time of Sensitivity)

"TS" is to set the sensitivity regarding how long one object stays in the detection area and triggers the recording. The smaller the value is, the higher sensitivity for motion detection.

The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 02.

7) RE (Reference)

"RE" is to set a reference for detection. The default value is 10, which means the DVR will compare 10 continuous images at one time according to the sensitivity of LS, SS, TS simultaneously.

The bigger the value is, the higher sensitivity for motion detection. The highest sensitivity is 61.

8) ALARM

Select N.C. / N.O. for the alarm polarity. The default alarm value is OFF.

7.1.3 Alert

In this menu list, you can set alerts for different kinds of situations, such as when HDD is full.

Move to “ALERT”, and press ↵. You will see the following screen:

ALERT	
EXT. ALERT	ON
INT. BUZZER	ON
KEY BUZZER	ON
VLOSS BUZZER	ON
MOTION BUZZER	ON
ALARM BUZZER	ON
HDD BUZZER	ON
ALARM DURATION (SEC)	05
HDD NEARLY FULL (GB)	05

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) EXT. ALERT

Select to enable or disable the sound when any external alarm is triggered (ON / OFF).

2) INT. BUZZER

Select to enable or disable the sound (ON / OFF) for all the internal buzzers: KEY BUZZER, VLOSS BUZZER, MOTION BUZZER, and ALARM BUZZER.

Note: When this item is set to OFF, item 3) to item 6) will be disabled even though they are set to ON.

3) KEY BUZZER

Select to enable or disable the sound when pressing the buttons on the front panel (ON / OFF).

4) VLOSS BUZZER

Select to enable or disable the sound when video loss happened (ON / OFF).

5) MOTION BUZZER

Select to enable or disable the sound when any motion alarm is triggered (ON / OFF).

6) ALARM BUZZER

Select to enable or disable the sound when any internal alarm is triggered (ON / OFF).

7) HDD BUZZER

Select to enable or disable the sound when HDD is full (ON / OFF).

8) ALARM DURATION (SEC)

Press ▲ / ▼ to set the duration time of alarm recording in second (5 / 10 / 20 / 40).

9) HDD NEARLY FULL (GB)

If HDD BUZZER is enabled, press ▲ / ▼ to have a buzzer notification when the HDD available capacity is 5/10/15/20 GB left.

7.1.4 Network

In this menu list, you can set up the network.

Move to “NETWORK”, and press ↵ to enter the submenu.

You will see the following screen:

NETWORK	
NETWORK TYPE	STATIC
IP	192 . 168 . 001 . 012
GATEWAY	192 . 168 . 001 . 254
NETMASK	255 . 255 . 252 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

- **STATIC**

10) NETWORK TYPE

Select the network type as STATIC and set all the information needed in the DVR.

11) NETWORK INFORMATION (IP / GATEWAY / NETMASK)

Key in all the network information obtained from your ISP (Internet Service Provider).

12) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

13) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

See the example below:

STATIC	
NETWORK TYPE	STATIC
IP	192 . 168 . 001 . 012
GATEWAY	192 . 168 . 001 . 254
NETMASK	255 . 255 . 252 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

- **PPPOE**

1) NETWORK TYPE

Select the network type as PPPOE.

2) USER NAME / PASSWORD

Set the “username” and “password” subscribed from your ISP supplier

3) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

4) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

See the example below:

PPPOE	
NETWORK TYPE	PPPOE
USER NAME	ac123456
PASSWORD	tech123456
IP	000 . 000 . 000 . 000
GATEWAY	000 . 000 . 000 . 000
NETMASK	000 . 000 . 000 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Note: The PPPOE function needs to have one “username” and one “password” subscribed from one ISP supplier, and a “DDNS account” to correspond the dynamic IP address to a specific “Hostname”. For detailed PPPOE settings, please refer to “Network” at page 45. For detailed DDNS settings, please refer to “DDNS” at page 45.

- **DHCP**

1) NETWORK TYPE

Select the network type as DHCP.

2) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

3) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

See the example below:

DHCP	
NETWORK TYPE	DHCP
IP	000 . 000 . 000 . 000
GATEWAY	000 . 000 . 000 . 000
NETMASK	000 . 000 . 000 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Note: This DHCP function needs to be supported by a router or a cable modem network with DHCP services, and a "DDNS account" to correspond the dynamic IP address to a specific "Hostname", for this function to work properly.
For detailed DHCP settings, please refer to "Network" at page 45. For detailed DDNS settings, please refer to "DDNS" at page 45.

7.1.5 Display

In this menu list, you can set up the settings of display.

Move to "DISPLAY", and press ↵ to enter the submenu. You will see the following screen:

DISPLAY	
DE-INTERLACE	ON
QUAD DWELL DURATION (SEC) *(Selected Models Only)*	03
FULL SCREEN DWELL DURATION (SEC)	03
VGA OUTPUT *(Selected Models Only)*	1024 X 678

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) DE-INTERLACE

Select to enable or disable the de-interlace function (ON / OFF).

Note: If you set the recording image size as "FRAME", please TURN ON de-interlace function.
If you set the recording image size as "CIF", please TURN OFF the de-interlace function.

2) QUAD DWELL DURATION (SEC) *(Selected Models Only)*

Set the quad dwell duration time (3 / 5 / 10 / 15 seconds).

3) FULL SCREEN DWELL DURATION (SEC)

Set the full screen dwell duration time (3 / 5 / 10 / 15 seconds).

4) VGA OUTPUT *(Selected Models Only)*

Select the VGA output resolution. There are seven options for your choice:
800 x 600 / 1024 x 768 (default) / 1280 x 1024 / 1440 x 900 / 1400 x 1050 / 1680 x 1050 / 1600 x 1200

Note: To have the best image quality on your LCD monitor, make sure (1) the selected DVR VGA output resolution is supported by your monitor, and (2) the VGA output settings on both the LCD monitor and DVR are consistent.
If the image is not positioned or scaled properly, please go to your monitor's menu for adjustment. For details, please refer to the user manual of your LCD monitor.

7.1.6 Record

In this menu list, you can set up the record settings.

Move to “RECORD”, and press ↵ to enter the submenu. You will see the following screen:

RECORD	
MANUAL RECORD ENABLE	ON
EVENT RECORD ENABLE	ON
TIMER RECORD ENABLE	ON
EVENT RECORD IPS	120
TIMER RECORD IPS	120
PRE-ALARM RECORD	ON
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS	
↑↓ SELECT ← BACK → NEXT ↵ ENTER	

The submenu items are described below:

1) MANUAL RECORD ENABLE

Set the manual recording function on / off.

2) EVENT RECORD ENABLE

Set the event recording function on / off.

3) TIMER RECORD ENABLE

Set the timer recording function on / off.

4) EVENT RECORD IPS

Select the images per second for EVENT RECORD (Recording that is triggered by an alarm or a motion).
The options are as following:

NTSC	IPS	PAL	IPS
FRAME	3, 7, 15, 30	FRAME	3, 6, 12, 25
FIELD	7, 15, 30, 60	FIELD	6, 12, 25, 50
CIF	15, 30, 60, 120	CIF	12, 25, 50, 100

5) TIMER RECORD IPS

Select the images per second for TIMER RECORD (Recording that is activated according to the scheduled time).
The options are as following:

NTSC	IPS	PAL	IPS
FRAME	3, 7, 15, 30	FRAME	3, 6, 12, 25
FIELD	7, 15, 30, 60	FIELD	6, 12, 25, 50
CIF	15, 30, 60, 120	CIF	12, 25, 50, 100

6) PRE-ALARM RECORD

Select to enable or disable the pre-alarm function (ON / OFF).
When pre-alarm and event recording functions are both activated, the DVR will record 8MB data before any alarm / motion is triggered.

7.1.7 Remote *(Selected Models Only)*

In this menu list, you can set up remote devices to work properly.

Move to “REMOTE”, and press ↵. You will see a similar screen as the following:

REMOTE				
TITLE	DEVICE	ID	PROTOCOL	RATE
01	CAMERA	000	NORMAL	02400
02	PTZ	255	P-D	02400
03	CAMERA	000	NORMAL	02400
04	CAMERA	000	NORMAL	02400
05	CAMERA	000	NORMAL	02400
06	CAMERA	000	NORMAL	02400
07	CAMERA	000	NORMAL	02400
08	CAMERA	000	NORMAL	02400
09	CAMERA	000	NORMAL	02400
10	CAMERA	000	NORMAL	02400
NEXT				
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS				
↑↓ SELECT ← BACK → NEXT ↵ ENTER				

The submenu items are described below:

7) TITLE

Show the camera title of each channel set in “CAMERA”.

8) DEVICE

Select the device type (CAMERA / PTZ) according to the connected camera for each channel.

9) ID

Set the ID number (0 ~ 255) for a PTZ camera.

After connecting to a PTZ camera correctly, the default ID of the PTZ camera will be shown on the screen.

10) PROTOCOL

Select NORMAL (our protocol) or P-D (PELCO-D) protocol.

11) RATE

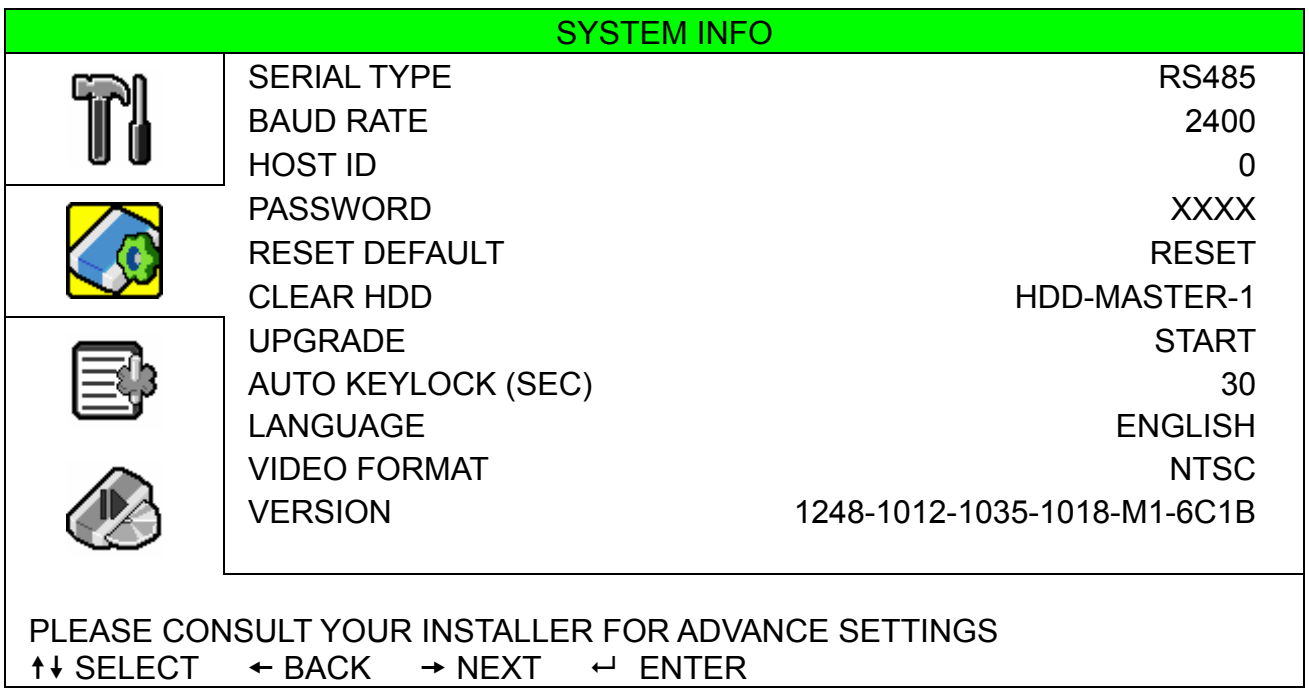
Set the baud rate of connected PTZ camera (2400 / 4800 / 9600 / 19200 / 57600 / 115200).

Note: Please make sure the baud rate setting in the PTZ camera is the same as the setting here.

7.2 System Info

In this menu list, you can check or change some system settings.

Move to “ ” (SYSTEM INFO), and you will see a similar screen as the following:



The submenu items are described below:

1) SERIAL TYPE

Here shows the serial type of the DVR (RS-485).

2) BAUD RATE

Set the baud rate of the DVR (2400 / 9600 / 19200 / 38400 / 57600).

3) HOST ID

Set the ID of the DVR (0 ~ 254).

4) PASSWORD

Reset the password for accessing the DVR system. You can set the 4-digit password.

5) RESET DEFAULT

Press ↵ to reset all settings as default, and select “YES” to confirm or “NO” to cancel.

6) CLEAR HDD

Select the HDD you want to clear. Press ↵ and select “YES” to confirm to clear HDD or “NO” to cancel.

7) UPGRADE (For upgrading firmware / OSD)

Before using the USB flash drive, please use your PC to format the USB flash drive as FAT32 format first. Then, save the upgrade file in a compatible USB flash drive, and insert it into the USB port at the front panel.

Press ↵ and select “YES” to confirm upgrade or “NO” to cancel.

Note: For the list of compatible USB flash drives, please refer to “APPENDIX 2 COMPATIBLE USB FLASH DRIVE BRAND” at page 63.

---

8) AUTO KEYLOCK

Set the time-out in second after which the key lock function is activated (Never / 10 / 30 / 60).

9) LANGUAGE (Multilingual OSD)

Select the language of the OSD.

10) VIDEO FORMAT

Here shows the information of the DVR video system (NTSC / PAL).

Note: The DVR will automatically detect and switch to the video system (NTSC / PAL) that is the same as the connected video input devices, such as cameras. To detect and switch to the correct video system, the cameras must be connected and power-supplied BEFORE the DVR is turned on.

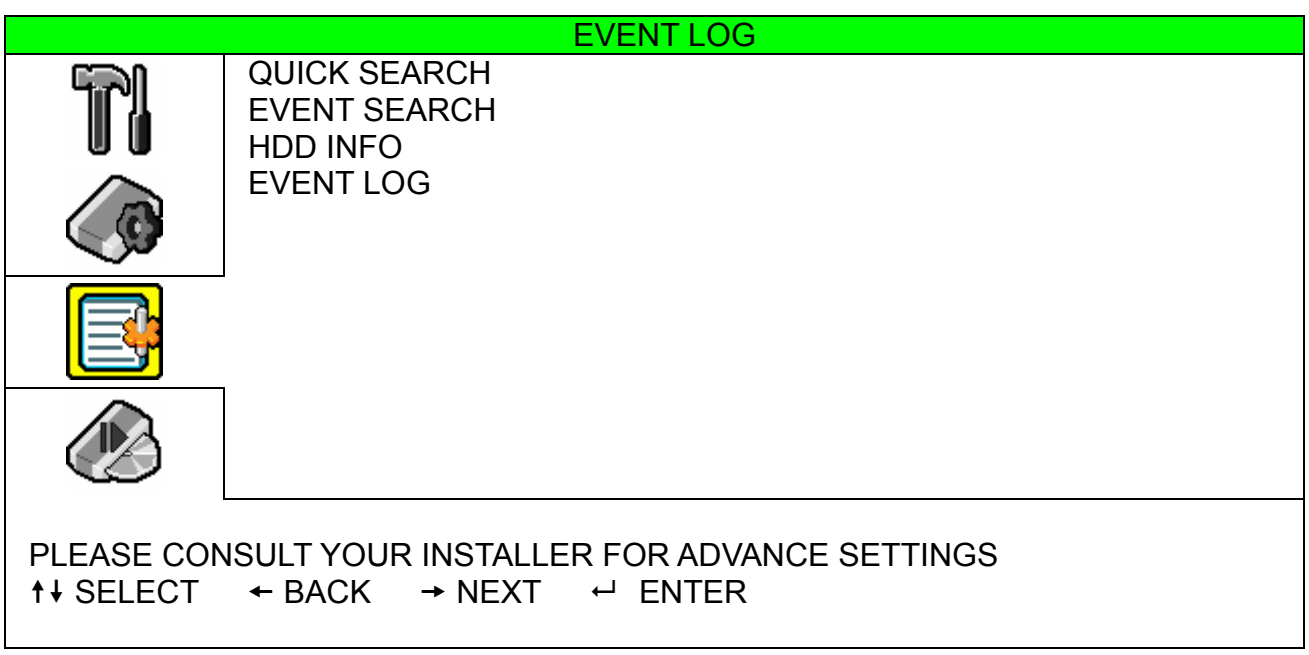
11) VERSION

Here shows the firmware version information.

7.3 Event Log

In this menu list, you can quickly search the recorded file by time and view all the HDD and event information (event type, time and channel).

Move to " " (EVENT LOG), and press . You will see the following screen:

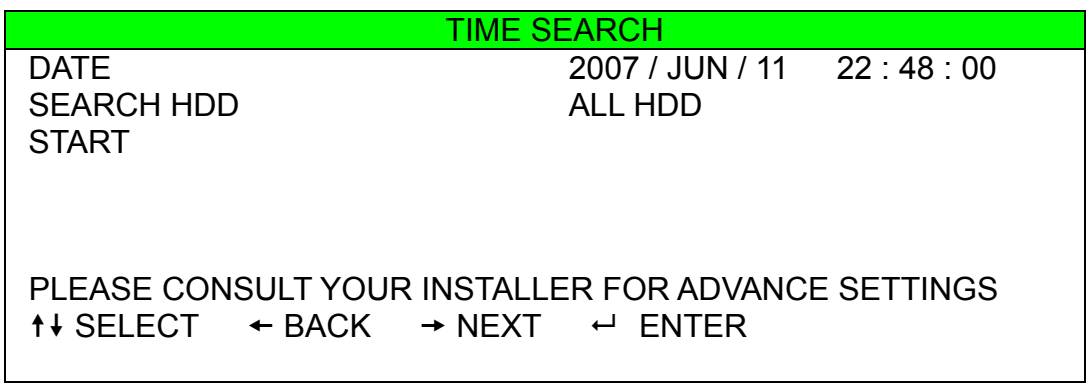


7.3.1 Quick Search

In this menu list, you can search any specific events by time and directly play the file you find.

Move to "QUICK SEARCH", and press .

You will see a similar screen as the following:


TIME SEARCH
DATE 2007 / JUN / 11 22 : 48 : 00
SEARCH HDD ALL HDD
START
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) DATE

Select the specific time period (YEAR / MONTH / DAY / HOUR / MIN) that you want to search.

2) SEARCH HDD

Change to the HDD you want to search if there are more than one HDD in your DVR by pressing ▲ / ▼.

3) START

Move to “START”, and press ↵ to search and directly playback the recorded files.

7.3.2 Event Search

Move to “EVENT SEARCH”, and press “ENTER”. You will see the following screen:

EVENT SEARCH		
DATE	2008 / JUN / 17	22 : 48 : 00
CHANNEL		01
EVENT		MOTION
SEARCH HDD		ALL HDD
START		

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) DATE

Set the date and time you want to search for events.

2) CHANNEL

Press ▲ / ▼ to select the channel.

3) EVENT

Select the event type: MOTION or ALARM.

4) SEARCH

Change to the HDD you want to search if there are more than one HDD in your DVR by pressing ▲ / ▼.

After setting all search criteria, press “ENTER” to start search and directly play if any file is found.

7.3.3 HDD Info

In this menu list, you can view the remaining capacity of all the connected HDDs in this device.

Move to “HDD INFO”, and press ↵. You will see a similar screen as the following:

HDD INFO			
HDD NUM	HDD SIZE (GB)	HDD NUM	HDD SIZE (GB)
HDD–MASTER–1	236.000	HDD–SLAVE–1	NO HDD

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

7.3.4 Event Log

In this menu list, you can view all the event information (event type, time and channel) or clear all log records.

Move to “EVENT LOG”, and press ↵. You will see a similar screen as the following:

EVENT LOG			
EVENT	TIME		COMMENT
POWER ON	2007 / MAY / 30	20:27:49	16
VLOSS	2007 / MAY / 30	20:05:05	06
VLOSS	2007 / MAY / 30	20:00:11	09
VLOSS	2007 / MAY / 30	16:00:08	14
VLOSS	2007 / MAY / 30	15:09:32	13
VLOSS	2007 / MAY / 30	11:00:08	12
VLOSS	2007 / MAY / 30	10:27:33	11
VLOSS	2007 / MAY / 30	08:05:55	10
DEFAULT	2007 / MAY / 30	08:05:26	09
POWER ON	2007 / MAY / 30	08:00:22	08
PREV NEXT	CLEAN		
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS ↑↓ SELECT ← BACK → NEXT ↵ ENTER			

7.4 Backup

In this menu list, you can choose to make a copy for a specified period time to a compatible USB flash drive for your own purpose.

The backup file can be played directly in your PC via the supplied licensed software AP. For detailed AP playback, please refer to the “Playback” at page 54.

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

Move to “ ” (BACKUP), and press ↵. You will see the following screen:

BACKUP	
	USB BACKUP
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS ↑↓ SELECT ← BACK → NEXT ↵ ENTER	

7.4.1 USB BACKUP

Before making USB backup, please check if:

a) The USB flash drive is supported by your DVR. If not, the message “USB ERROR” will be shown on the screen.
   For the list of the compatible USB flash drives, please refer to “APPENDIX 2 COMPATIBLE USB FLASH DRIVE BRAND” at page 63.
b) The format of your USB flash drive must be "FAT32". If not, please format it as “FAT32” in your PC.
c) There is no data in the USB flash drive. If yes, it’s recommended to clear all data in the USB flash drive before starting the backup.

Move to “USB BACKUP”, and press ↵. You will see a similar screen as the following:

USB BACKUP								
START TIME	2007 / MAY / 31							13:00:05
END TIME	2007 / MAY / 31							13:10:05
AVAILABLE SIZE								1960.0MB
CHANNEL	☑	01	☐	02	☐	03	☐	04
	☐	05	☐	06	☐	07	☐	08
	☐	09	☐	10	☐	11	☐	12
	☐	13	☐	14	☐	15	☐	16
HDD NUM								ALL HDD
START								

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described as below:

1) START TIME

   Select the start time of the backup.

2) END TIME

   Select the end time of the backup.

3) AVAILABLE SIZE

   Display the available capacity in the inserted USB flash drive.

4) CHANNEL

   Select channels by pressing ↵ to change the symbol in front of the channel number.

   Symbol “ ☑ ” means that this channel is selected to backup.
   Symbol “ ☐ ” means that this channel is not selected to backup.

5) HDD NUM

   Press ↵ to select the HDD containing the data you need.

6) START

   Press ↵ to start copying the chosen data to the USB flash drive.

Note: If you want to make a video backup with audio, please connect audio cameras to the channels which support the audio function
For 16CH & 8CH DVR, the audio channels are CH1, CH2, CH3 and CH4.
For 4CH DVR with a fan built-in, the audio channel is CH1.

8. REMOTE OPERATION (Take 16CH DVR as an example)

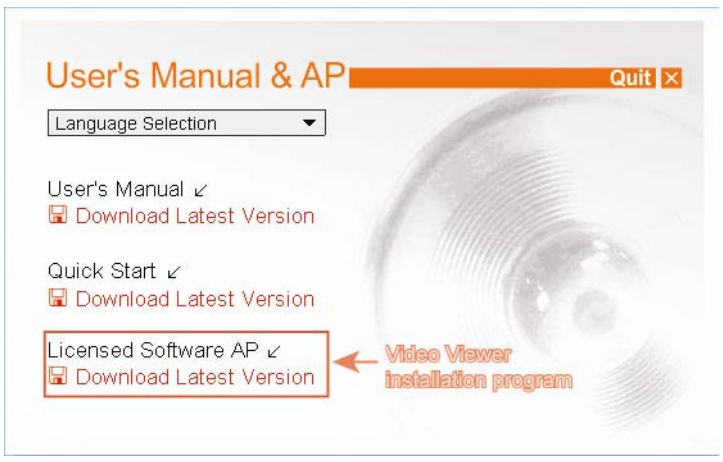
You can also control the DVR remotely via the supplied licensed software “Video Viewer”, Internet Explorer web browser, and Apple’s QuickTime player.

8.1 Supplied Licensed Software AP

8.1.1 Installation & Network Connection

1) Install the software

Step1: Place the supplied CD into your CD-ROM or DVD-ROM drive. The program will be automatically run.



Step2: Click “Licensed Software AP” to install Video Viewer, or click “Download Latest Version” under “Licensed Software AP” to download the latest version of Video Viewer from the Internet.

Step3: follow the on-screen instructions to finish the installation. When the installation is completed, a shortcut icon “” will be placed on your PC desktop.

2) Network Connection

- Local Connection (via LAN)

a) Connect the DVR to your PC via a RJ-45 network line. The default DVR IP address is “192.168.1.10”, and the default user name and password are both “admin”.

b) Set the PC’s IP address as “**192.168.1.*XXX*** ” (1~255, except 10) in order to make the PC and DVR under the same domain.

c) Double-click “” icon on your PC desktop to enter the control panel. By defaults, the “Address Book” () panel will be displayed on the right side of the control panel.

d) Click “” (Address Book) → “” (Add) button to key in the default IP address, user name, password, and port number of the DVR you intend to connect.

OR

Click “” (Search) → “” (Refresh) to search the available IP address(es) of other DVR(s) under the same domain as your PC’s IP address. The found address(es) will be listed, and can be added into the address book by clicking “” (Add into address book).

For details, please see “” (Search) at page 39.

e) Double-click the IP address you just added into the address book to log in. When you’re logged in, the “Event” panel will be shown by defaults.

➢ Remote Connection (via Internet)

a) Double-click “” icon on your PC desktop to enter the control panel. By defaults, the “Address Book” panel will be displayed on the right side of the control panel.

b) Click ”” (Address Book) → ”” (Add) button to key in the IP address, user name, password, and port number of the DVR you intend to connect.

The default DVR values are as follows:

Item	Default Value
IP address	192.168.1.10
User name	admin
Password	admin
Port	80

OR

Click ”” (Search) → ”” (Refresh) to search the available IP address(es) of other DVR(s) under the same domain as your PC’s IP address. The found address(es) will be listed, and can be added into the address book by clicking ”” (Add into address book).

For details, please see “” (Search) at page 39.

c) Double-click the IP address you just added into the address book to log in. When you’re logged in, the “Event” panel will be shown by defaults.

8.1.2 AP Control Panel

After setting up the network information, login user name and password, double-click “” on the PC desktop to open and log into the control panel. You will see a screen similar to the following with 7 major sections:

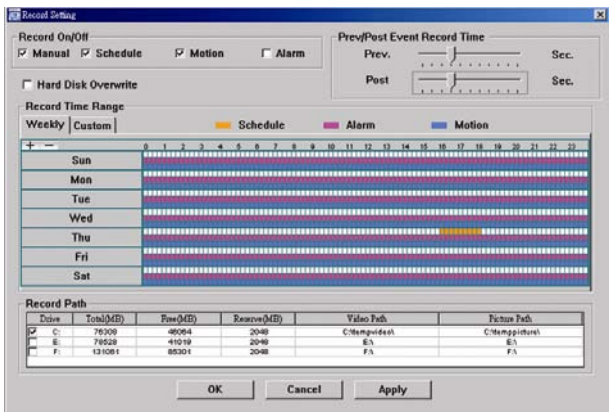
Button	Function	Description
N/A	Image Display	The place where the images are displayed. For details, please see “8.1.4 AP Functions” at page 38.
	Address Book	Click to show the predefined IP address(es). You can add, remove or search the IP address to log in the DVR remotely. Two sub-functions are available for this button: Address Book and Search. For details, please see “Address Book ” at page 38.
	Miscellaneous Control	Click to show the main operation functions: audio volume control (except for 4CH DVR model without a fan), color setting, backup, DVR setting, upgrade, and find event logs.

		For details, please see “Miscellaneous Control” at page 39.
/	Record On / Off	Click to start / stop the manual recording.
	Snapshot	Click to take a snapshot of the current view. The snapshot will be saved in the path you specified in “Record Setting”. Please refer to “Record Setting” at page 41 for details.
	Information	Click to show the current network connection details. For details, please see “Information” at page 55.
	DVR Control	Click to go to the DVR control panel to operate the DVR remotely. For details, please see “DVR Control” at page 55.

8.1.3 General AP Operation

Record

To record remotely at the same time when any event alarm is triggered at the DVR side, click “” (Miscellaneous Control) → “” (Record Setting) to go to the “Record Setting” page. Check the record type(s) you want, and assign the location to save the recordings by double-clicking the “Video Path” cell.



If “Manual” is checked, click “” (Record) on the main control panel to start the manual recording immediately, and the recordings will be saved in the specified location. The red text indication “REC” will be shown at the top left corner of the image display view.

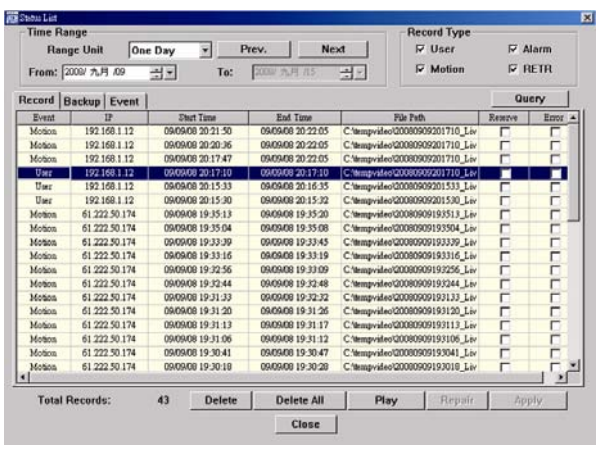
If “Motion” and / or “Alarm” are checked, the recording function will also be enabled at the remote side when any event is triggered at the DVR side, and the recordings will be saved in the specified location.

For details, please see “Record Setting” at page 41.

Playback

To play a recording, click “” (Miscellaneous Control) → “” (Status List), and select the “Record” tab or “Backup” tab. A list of all the recordings will be shown by defaults, and you can also sort out the logs you want to speed up the search time.

For details, please see “Status List” at page 53.

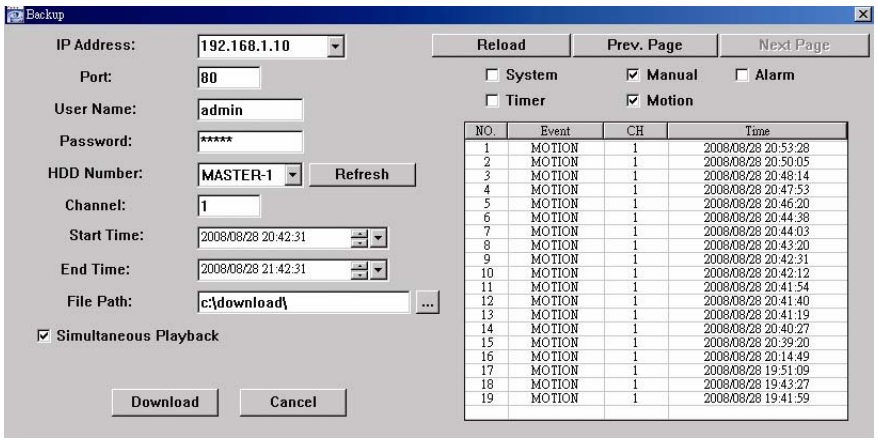


To immediately play a recording, select a log from the list, and click “Play”, or double-click the selected log. Then, the playback control panel will be shown at the bottom of the main control panel similar to the following.

For the playback control panel details, please see “Playback Screen” at page 54.

Network Backup

Click “ ” (Miscellaneous Control) → “ ” (Backup) to go into the “Download” page as follows, and you can select a specific time range or event to make a video backup remotely. For details, please see “Backup” at page 40.



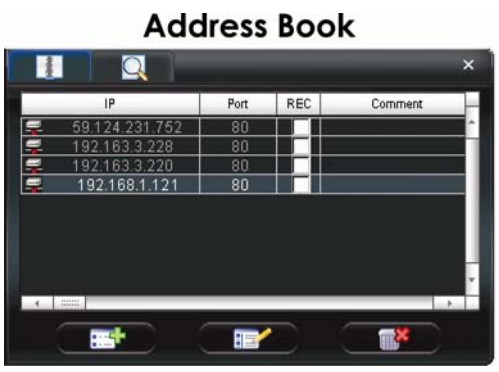
8.1.4 AP Functions

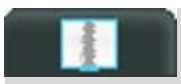
Image Display

Button	Function	Description
	Live / Playback / Download Display Switch	If you want to switch among the live view, playback view and download view, click the blue tab “Live”, “Play” or “Download” to make a switch. **Live**: When you are logged in, this tab with the live view is displayed by defaults. **Play**: When a video clip is selected in “Logs” and played, this tab with the palyback view is displayed. **Download**: When the downloaded video clip is selected in “Logs” and played, this tab with the downloaded video clip is displayed.
	Original Size	Click to return to original size of the monitoring view.
	Expand All Views	To see all views in the image display area if you have many views and do not want to switch each view by clicking the blue tab described above, click to choose a proper split view (1-cut / 4-cut / 6-cut / 9-cut / 13-cut / 16-cut) which best suits your needs. The selected view will be indicated with a red frame around it. **Note:** The 6-cut & 13-cut views are only for the model with a VGA interface built-in.
	Close	Click to close the current image display view. If the last image display view is closed, you will be logged out automatically.
	Close All	Click to close all the image display views.

Address Book

This view is displayed when Video Viewer is activated for you to log in / out the DVR from the current address list, or search the available IP address as follows:



➢  **(Address Book)**

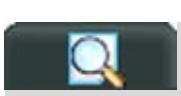
Click to view the pre-defined DVR access details.

To log in, choose one IP address from the address list, and click the address twice; to log out, click the connected IP address twice.

Tip: You can also click " " or " " in the image display section to log out or log out all. For details, please refer to "Image Display" at page 38).

You can also create new IP address information, or modify or remove the current IP address information.

Button	Function	Description
	Add	Click to directly add one IP address for login. Key in the DVR access information needed, and click "Apply" and "Close".
	Edit	Select one current IP address from the address list, and click this button to modify the DVR access information as needed.
	Remove	Select one IP address from the address list, and click this button to delete it.
N/A	REC	When the video viewer is connected to more than one device, and not all devices are necessary to enable the manual record function, check REC for the connected device(s), and its manual record function will be on.

➢  **(Search)**

Click to search and view the available IP address(es) for the DVR connection. You can choose one address to add into the address book, edit the details, or update the address list.

Button	Function	Description
	Add into address book	Select from the available IP address list, and click this button to add the selected address to the address book.
	Setting	Select from the available IP address list, and click this button to edit the setting.
	Refresh	Click to update the available IP address list.

Miscellaneous Control

Click " " (Miscellaneous Control) on the control panel, and 7 functions are available as follows:

Button	Function	Description
	Audio Volume Control	To adjust the volume of the audio channel, click and drag the volume slider. This function is not available for 4CH DVR model without a fan.
	Color Setting	Click this button to adjust the brightness / contrast / hue / saturation for a single channel or the whole channels. For

Button	Function	Description
		details, please see “Color Setting” at page 40.
	Backup	To make a video backup remotely, click this button, and you will go to the download setting page. For details, please see “Network Backup” at page 37.
	Record Setting	Click to go to the detailed record setting. Please refer to “Record Setting” at page 41 for details.
	Server Setting	Click to go into the detailed DVR setting. Please refer to “Dvr Setting” at page 41 for details.
	Tools	Click to update the firmware version, multilingual OSD and boot display of your DVR remotely. Please refer to “Tools” at page 51 for details.
	Status List	Click to view all event and recording logs, search the desired log(s) by date, or playback the recording of the selected log. For details, please refer to Status List” at page 53.

➢ Color Setting

Click “ ” to go into the “Color Setting” page, and you can adjust the brightness / contrast / hue / saturation for a single channel or all channels.

Choose the desired channel from the drop-down list, and click and drag the slider to make adjustment. Click “ ” to apply the change to the selected channel, or “ ” to apply to all channels.

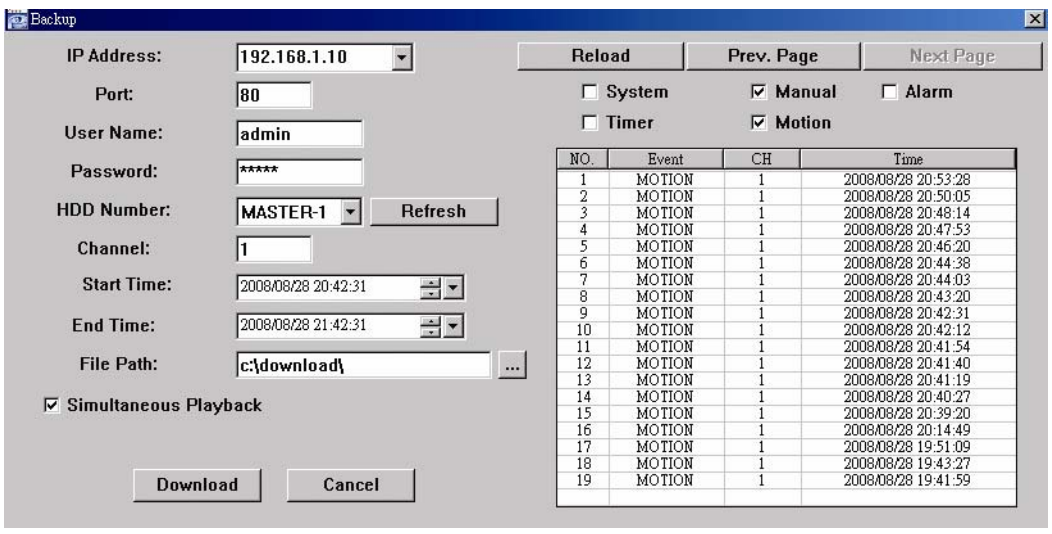
To restore to default values, click “ ”.

Note: You need to be a supervisor to operate this function. For details, please see “Account” at page 43.

➢ Backup

Click “ ” (Backup) to go into the “Download” page, and you can select a specific time range or event to make a video backup remotely.

Note: You need to be a supervisor to operate this function. For details, please see “Account” at page 43.

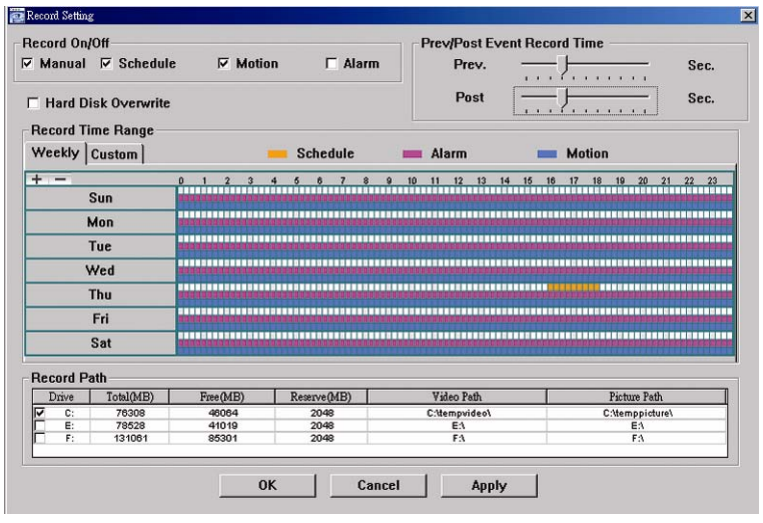


Function	Description
IP Address / Port / User Name / Password	Check if the network connection information of the DVR within which contains the video data you need is correct.
HDD Number / Channel	Specify the hard disk (HDD Number) and channel number (Channel) within which have the video data you need.
Download by Time	Specify the time range within which has the video data you want in the “Start Time” and “End Time” columns.
Download by Event	Select an event log from the event list. This list shows all logs in the specified DVR from the latest to the earliest. • To quickly find the events you need, check or uncheck the event type “System” / “Manual” / “Alarm” / “Motion”, and select the log you want. • To view the earlier or later logs that are not shown in the current page, click “Prev. Page” or “Next Page”. • To refresh the event list, click “Reload”.
File Path	Assign the location where the backup files are saved.
Simultaneous Playback	To view the backup images simultaneously when the download process is in progress, select Simultaneous Playback. You will see the backup images while the images are being downloaded to the PC or notebook. To simply backup images without previewing, deselect Simultaneous Playback. You will only see a message box indicating the total time needed, the current status and the saving location.
Download / Cancel	Click “Download” to start or “Cancel” to discard the video backup.

➢ Record Setting

Click “ ” to go into the “Record Setting” page and you can set the following items:

- Record type
- Hard disk overwriting
- Pre- / post-alarm record time
- Record time setting
- Record path



Record type

In this section, you can select which type of the recording will be enabled. There are 4 options: Manual / Schedule / Motion / Alarm.

Hard disk overwriting

To overwrite the recorded data from the earliest to the latest when the hard disk is full, check “Hard Disk Overwrite” checkbox.

Pre- / post-alarm record time

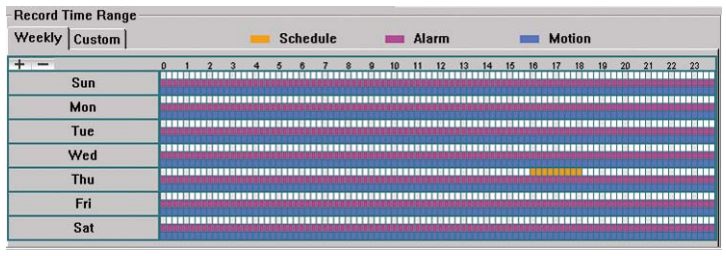
Select the pre-/post-alarm recording time from 0 sec. to 10 sec.

Record time setting

There are two ways to set the record time: Weekly and Custom.

◆ Weekly

Click “Weekly” tab, and you will see a weekly time table indicating the week days (Mon ~ Sun) and hours (0 ~ 24), similar to the figure below:



X axis: 0 ~ 24 hours. Each time interval within a square is 15 minutes.

Y axis: Monday ~ Sunday.

Operation: You can set the record schedule for 3 record types as needed in this time table:

1st timeline – Schedule l recording, indicated in yellow,

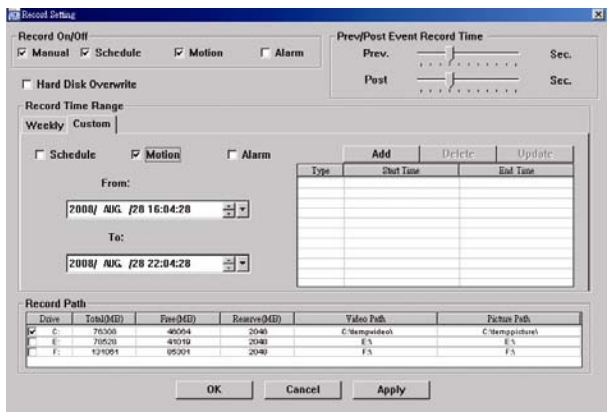
2nd timeline -- Alarm recording, indicated in magenta, and

3rd timeline -- Motion recording, indicated in cyan.

Click and hold the start time point, and drag to the end time point to set the record time range.

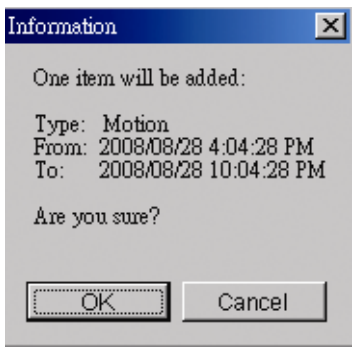
◆ Custom

Click “Custom” tab, and you can set a more specific record time range for the 3 record types: Schedule, Motion, and Alarm.



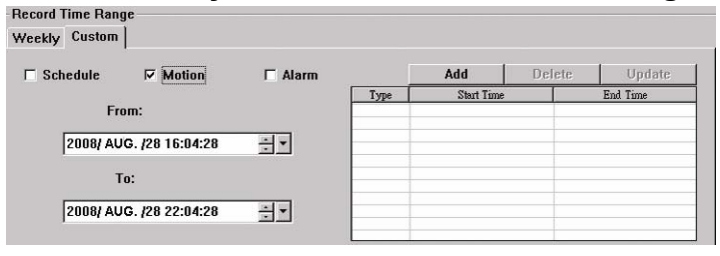
How to add a new time setting:

1. Check the record type you want to schedule the recording.
2. Set the start time (From) and end time (To).
3. Click “Add” to add the time range you just set into the schedule table. Before adding the time range, you will be prompted to confirm as follow:



Check if the information shown is correct. Click “OK” if the information is correct. Click “Cancel” if the information is wrong.

How to modify / delete a current time setting:



1. Select the schedule setting you want to modify from the schedule table. The setting will be displayed in the left setting panel.
2. Modify the setting in the left setting panel, and click “Update”.

3. You will be prompted to confirm the setting. Click “OK” if the information is correct. Click “Cancel” if the information is wrong.
4. To delete one schedule setting, select it, and click “Delete”.

Record Path

Select and view the location for saving the recorded video and snapshot pictures.

To change the saving path for the recorded video clips or snapshots, check the drive you want, click the cell of “Video Path” or “Picture Path” twice, and select a new path for saving the video clips or snapshots.

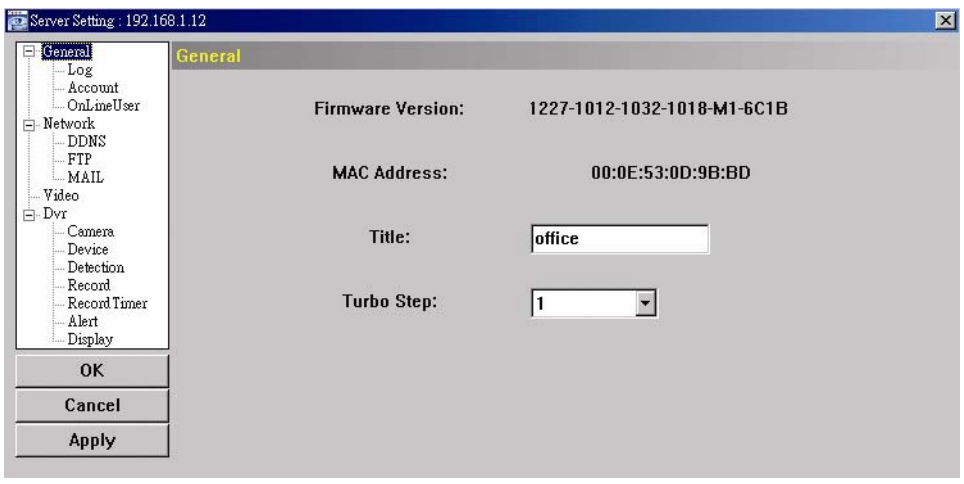
➢ Dvr Setting

Click “ ” to view, set or modify the DVR setting. All the changes you make here will be applied to the connected DVR.

Note: You need to be a supervisor to operate this function. For details, please see “Account” at page 43.

General

In “General” and its sub-menus, “Account” and “OnLineUser”, you can view and set some common settings, such as the turbo step, make account setting, and check the information for all current on-line users.



In “General”, you will see the following items:

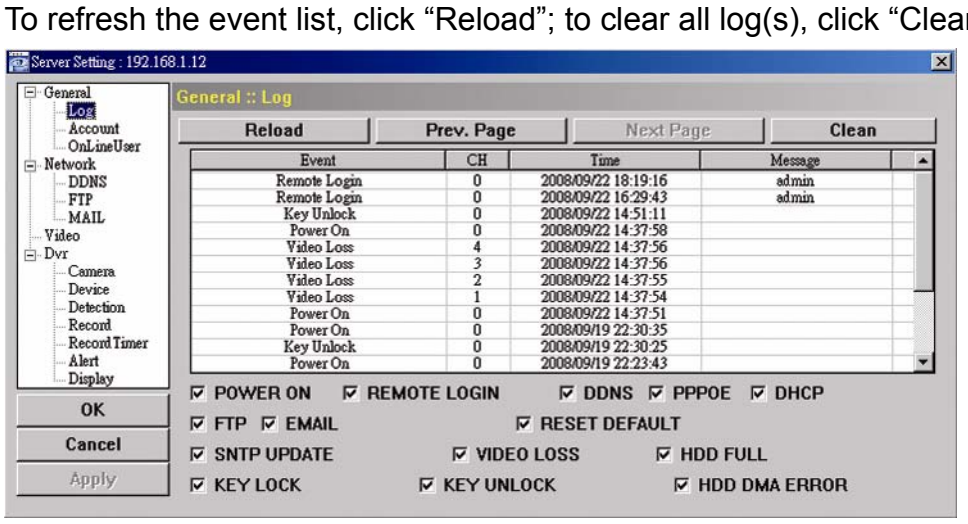
Item	Description
Firmware Version	Display the current firmware version of your DVR.
MAC Address	Display the MAC address.
Turbo Step	Speed up the menu selection from 1 to 30. Ex: If the value of the turbo step is set to 5, one mouse-click will function as 5 mouse-clicks when you click one of the buttons / / / in the DVR control panel.
Title	Provide a title for this DVR. Only 16 characters are allowed.

◆ Log

In “General” → “Log”, you can view the system event log(s) of the connected DVR for reference.

To check the previous / next page if there are more than one page, click “Prev. Page” / “Next Page”.

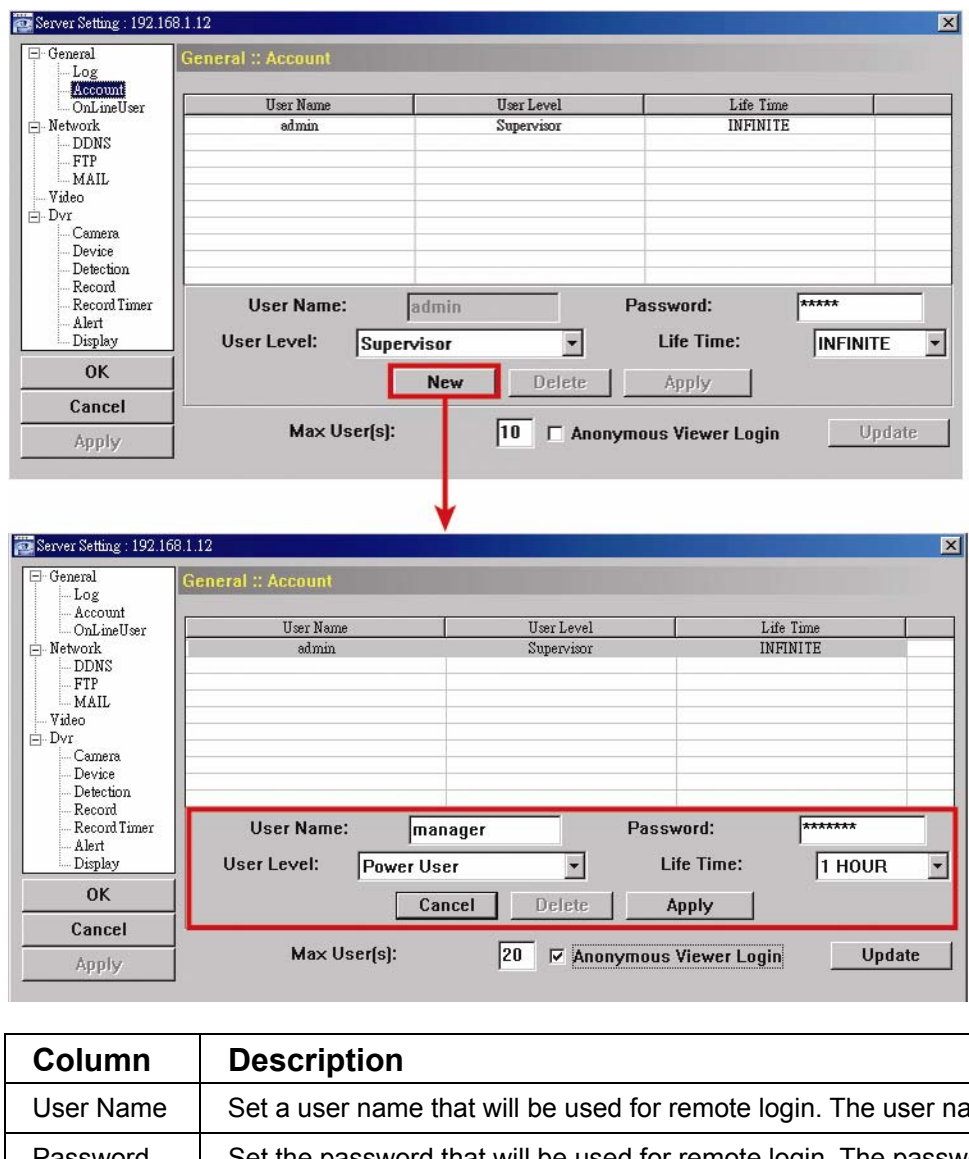
To refresh the event list, click “Reload”; to clear all log(s), click “Clean”.



◆ Account

In “General” → “Account”, you can create a new account for login, or delete or modify the existing account setting.

- To add an account, click “New”, and fill in the following columns. Then, click “Apply” to save your setting and create a new account.



Column	Description
User Name	Set a user name that will be used for remote login. The user name allows up to 10 characters.
Password	Set the password that will be used for remote login. The password allows up to 8 characters.
User Level	Set the security level of an account to give the permission to control different AP functions. There are 4 user levels: Supervisor, Power User, Normal User and Guest. For the functions each level is allowed to use, please see the information below:
Life Time	Select how long this account is allowed to stay online (1 MIN / 5 MIN / 10 MIN / 1 HOUR / 1 DAY / INFINITE)

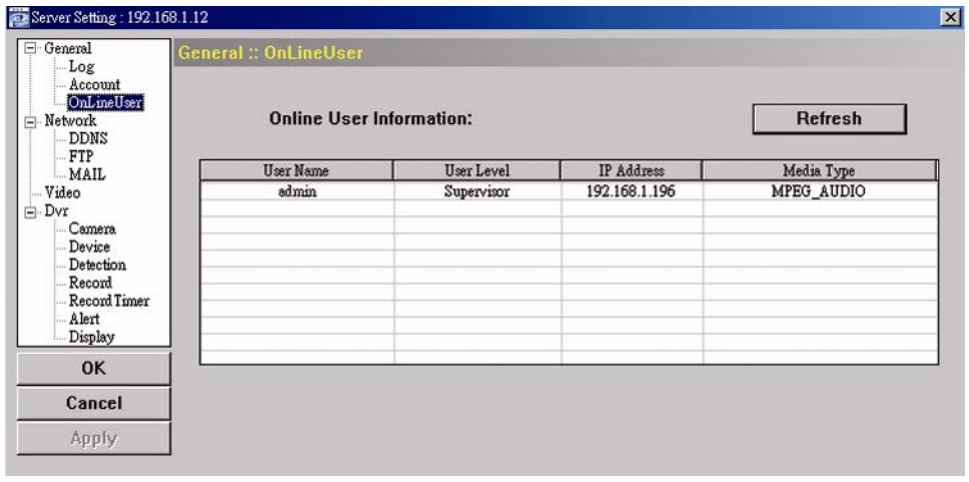
	Supervisor	Power User	Normal User	Guest
Address Book	●	●	●	●
Miscellaneous Control				
Color Setting	●	X	X	X
Backup	●	X	X	X
Record Setting	●	●	●	●
Dvr Setting	●	X	X	X
Tools	●	X	X	X
Log	●	●	●	●
Record	●	●	●	●
Snapshot	●	●	●	●
Information	●	●	●	●
Dvr Control	●	● (except Menu key)	● (except Menu & audio channel keys)	X

- To modify an existing account, select the account you want, change the setting, and click “Apply”.
- To remove an existing account, select the account you want, and click “Delete”.

- To save your changes, click “Apply”.
- To define the maximum account creation number, key in the number in “Max User(s)” column from 1 to 20, and click “Update”.

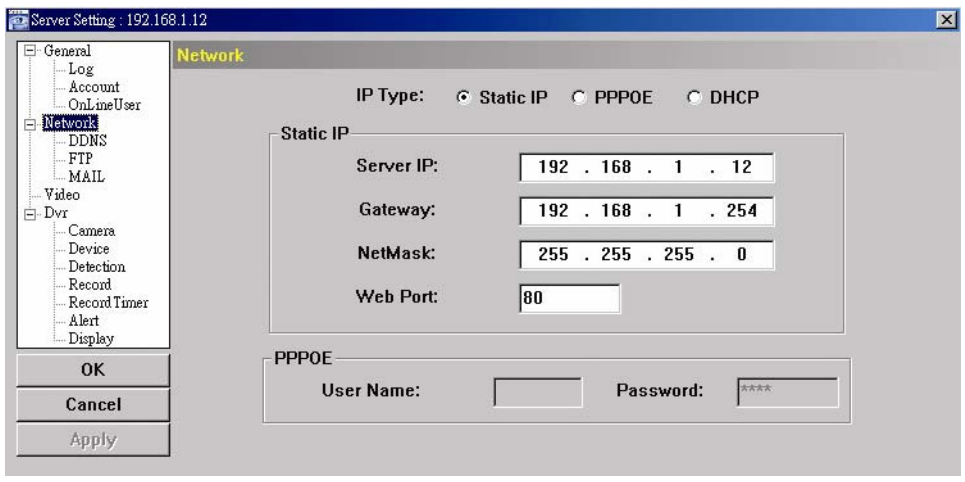
◆ OnLineUser

In “General” → “OnLineUser”, you can check all the online user information. To update the user information, click “Refresh”.



Network

In “Network” and its sub-menu, “DDNS”, “FTP” and “Mail”, you can set the DVR network configuration, and the FTP or Email setting when an alarm is triggered. The network configuration allows the DVR to connect to the LAN or Internet.

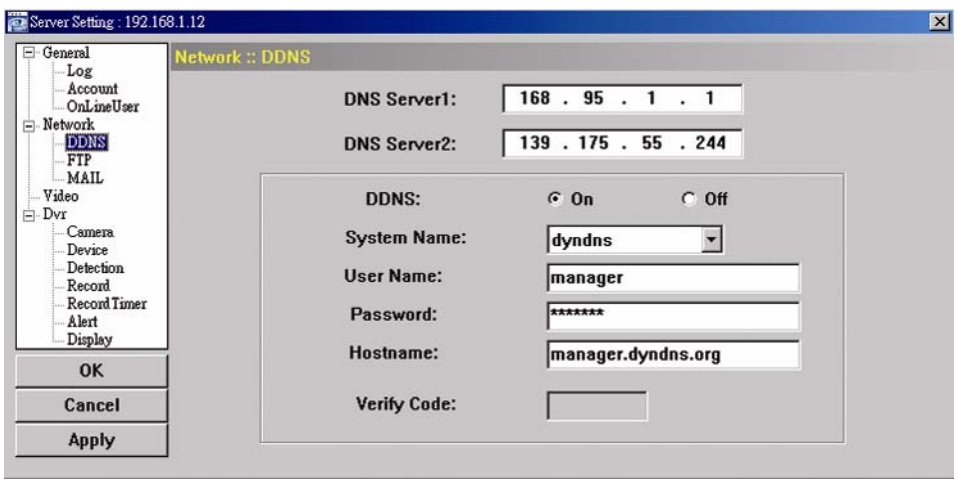


Select the network type you will be using for DVR connection. There are 3 network connection types: Static IP, PPPOE and DHCP. For details about each connection type, please refer to “7.1.4 Network” at page 24.

Note: PPPOE and DHCP network connection types are required to apply the DDNS service to get a “Hostname” to correspond to a dynamic IP address. Please refer to “DDNS” at page 45 for details.

◆ DDNS

You need to apply a DDNS account before setting PPPOE or DHCP connection. DDNS is a service for transforming the dynamic IP corresponding to a specific “host name”. Go to a website which provide free DDNS services and apply a host name.



DDNS Apply:

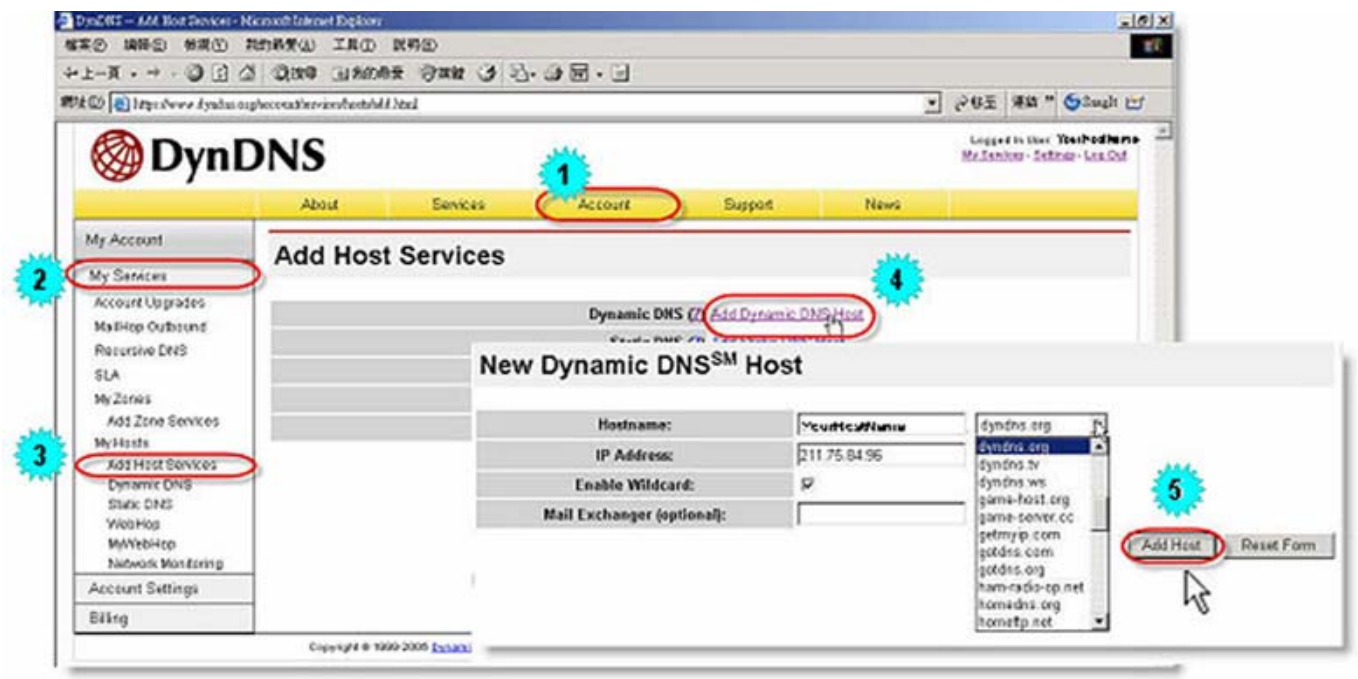
a). Go to a website which provide the free DDNS service, for example, http://www.dyndns.org.

b). Create an account in DynDNS.

c). After creating one account, users will receive a confirmation E-mail within a few minutes. To complete the registration, please follow the instructions received.
Users must complete these steps within 48 hours to complete the registration. If the confirmation E-mail was not received within an hour, request “password reset” (http://www.dyndns.org/account/resetpass/).

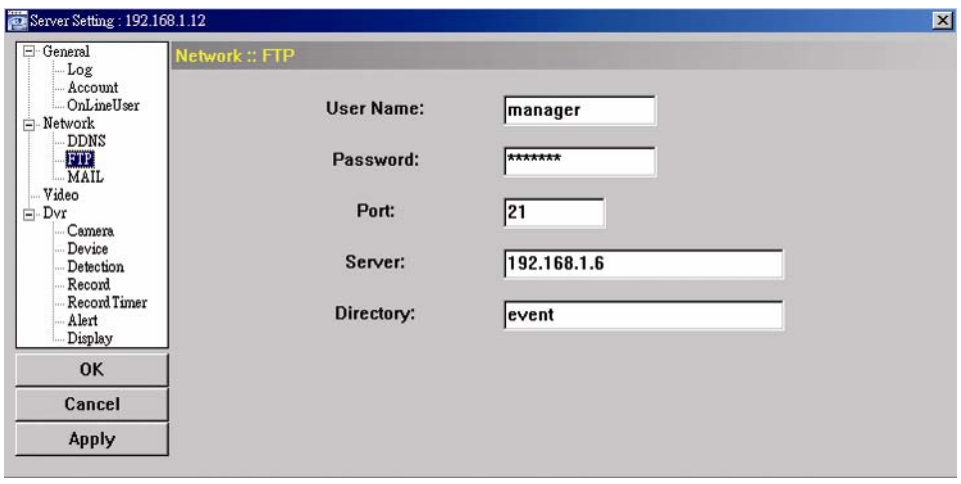
d). Use the DDNS username and password to log into the DynDNS.

e). Create a host name:
After login, click “Account” → “My Service” → “Add Host Services” → “Add Dynamic DNS Host”. Enter and choose a host name, and click “Add Host”. Then, your DDNS host name is created.



◆ FTP

If the FTP notification function is activated, the DVR will upload the captured images to the specified FTP site once alarm-trigger or motion-trigger recording happened. Please enable the function of FTP notification in the “Alarm” menu first.



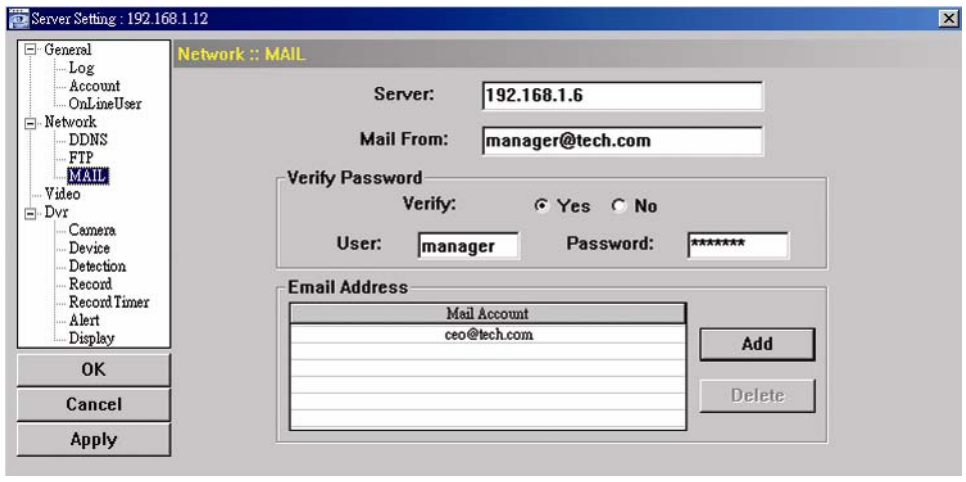
FTP Notification Function:

a. Enter the detailed FTP information.

b. After finishing the setting, click “APPLY” to confirm.

◆ MAIL

If the e-mail notification function is activated, the DVR will send an e-mail notification to the specified recipients once alarm-trigger or motion-trigger recording happened. Please enable the function of e-mail notification in the “Alarm” menu first.



Mail Notification Function:

a. Add the recipients' E-mail accounts in "Mail Account" column.

Please type the entire E-mail address in the "Mail from" column to ensure E-mails will not be blocked by SMTP.

For detailed information (SMTP server, username and password), please check with your E-mail service supplier.

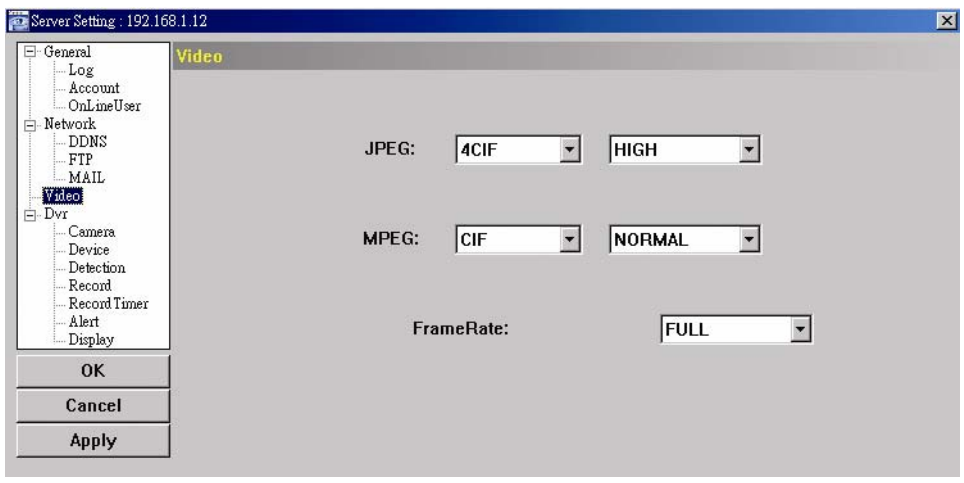
b. Some mail servers are required to verify the password. Please enter the "user name" and "password".

c. After finishing the setting, click "APPLY" to confirm.

Note: Mail addresses can be added up to 4.

Video

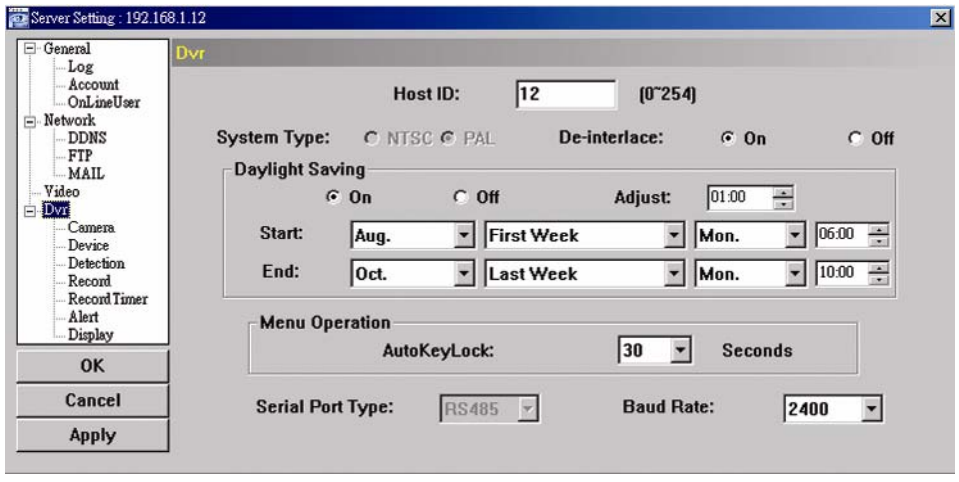
In "Video", you can set the video web transmission size and quality, and the frame rate for transmitting.



Function	Description
JPEG	Choose the image size (4CIF / CIF) and picture quality (BEST / HIGH / NORMAL / BASIC) when the web transmission format is JPEG.
MPEG	Choose the image size (4CIF / CIF) and picture quality (BEST / HIGH / NORMAL / BASIC) when the web transmission format is MPEG.
FrameRate	Choose the frame rate for transmitting (FULL / HALF / ONE THIRD / ONE QUARTER / ONE FIFTH / ONE TENTH).

Dvr

In "Dvr" and its sub-menus, "Camera", "Device", "Detection", "Record", "Record Timer", "Alert" and "Display," you can set DVR general functions, such as the host ID, the record schedule, alerts, motion detection, and text or icon display, etc.

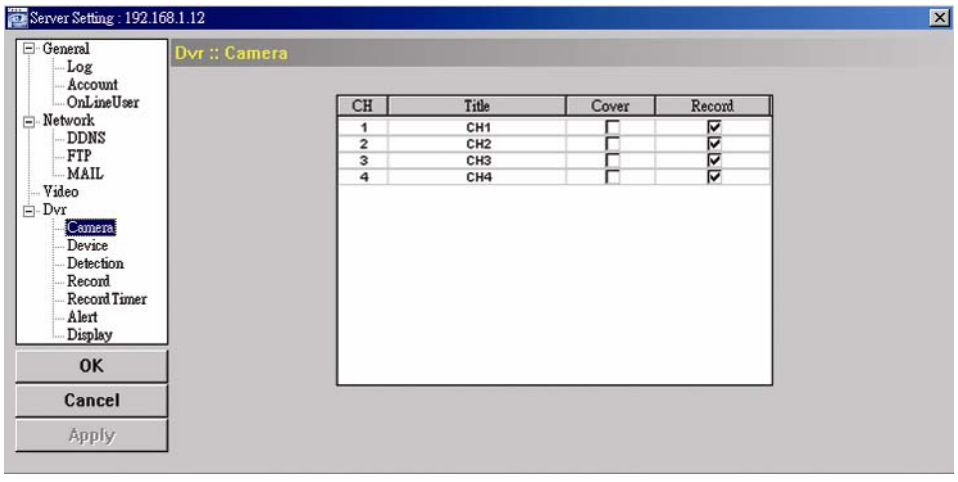


In “Dvr”, you can see the following items:

Function	Description
Host ID	Set the host ID from 0 to 254. The default value is 0.
System Type	Display the current system type (NTSC / PAL). It’s automatically detected.
DeInterlace	Choose to reduce (ON) or ignore (OFF) the vibration of the paused picture.
Daylight Saving	Specify whether to use daylight saving time (ON / OFF). If this function is enabled, set the time period (START / END), and adjust the daylight saving time in hours (ADJUST).
Menu Operation	Select the time-out in seconds after which the DVR keys will be automatically locked when no one is operating the DVR for a period of time (0 / 30 / 60 / 120). The default value is 30.
Serial Type	Display the serial type (RS485) used by this DVR. It’s automatically detected.
BaudRate	Choose a baud rate used by this DVR from the drop-down list (2400 / 9600 / 19200 / 38400 / 57600 / 115200). The default value is 2400.

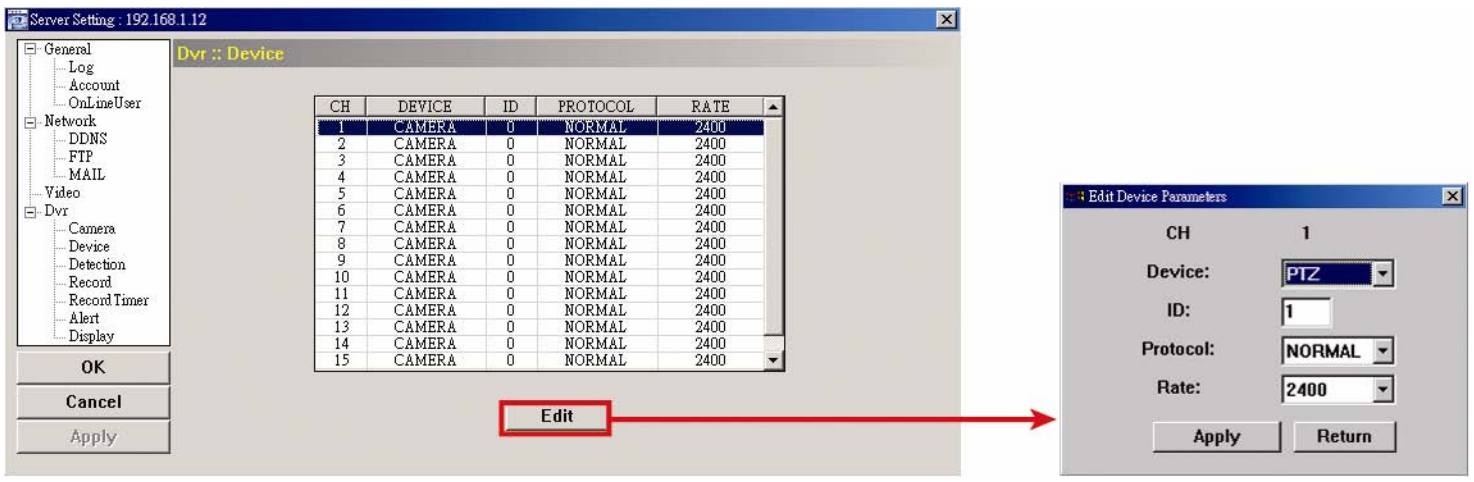
◆ Camera

In “Dvr” → “Camera”, you can specify a channel to enable the recording function by selecting the check box “Record”, choose to activate the “Covert Recording” function by selecting the check box “Cover”, and rename the channel title which will be displayed in the live view screen by double-clicking the channel title.



◆ Device

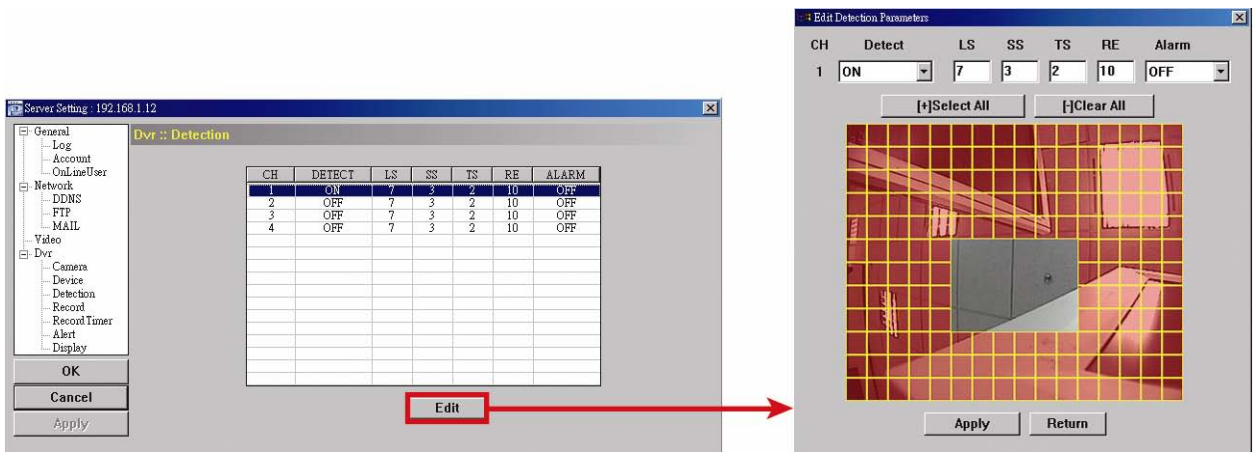
Select the device type (CAMERA / PTZ) according to the connected cameras for each channel. Click “Edit” or double click the item to enter the setting box.



Function	Description
Device Type	Choose either normal camera or PTZ camera.
ID No.	Set the ID number (0 ~ 255) of the connected PTZ camera.
Protocol Type	Choose “NORMAL” or “P-D” protocol. It is recommended to select PELCO-D protocol for the connected PTZ camera of other brands. Please choose Normal if it’s our own PTZ camera
Baud Rate	Set the baud rate of each channel (2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200).

◆ Detection

Select the desired channel, and click “Edit” to enter the motion detection sensitivity and area-setting page.

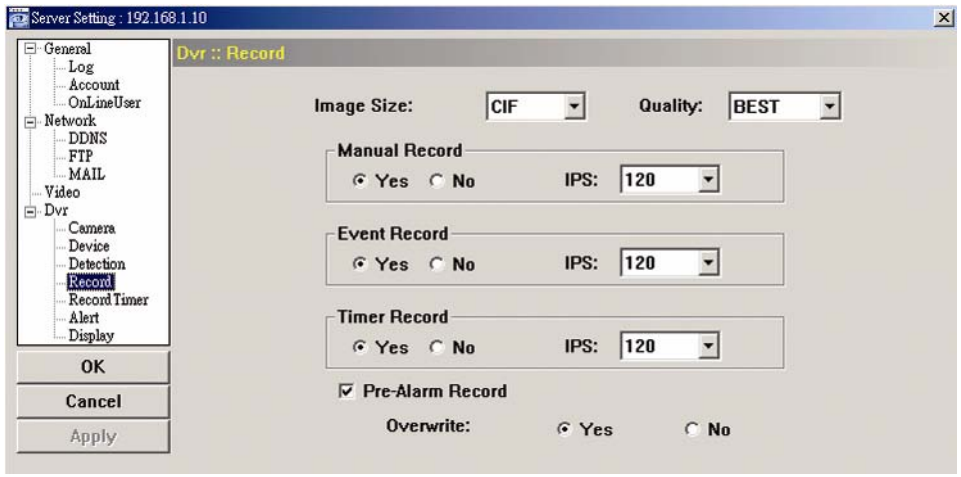


Please see the description below for each function:

Function	Description
DETECT	Enable (ON) or disable (OFF) the function of “Motion Detection”. If this function is enabled, you might need to set the motion detection sensitivity or simply keep the default values. For details, please see the description below.
Motion Detection Sensitivity (LS / SS / TS / RE)	Set the detection sensitivity in 4 different adjustable parameters (LS / SS / TS / RE). For details about each parameter, please refer to “7.1.2 Detection” at page 21.
Alarm	Select N.C. (normal closed) / N.O. (normal opened) / OFF for the alarm polarity. For N.C. / N.O. contact details, please refer to “APPENDIX 2”.
Motion Detection Setting Area	Set the motion detection area by selecting the area grids with your mouse. Pink grids represent the area that is not being detected while the transparent grids are the area under detection. You can set multiple areas under detection. Click “－” (Clear All) to set the whole area undetected. Click “＋” (Select All) to set the whole area under detection.
Apply / Return	To save the setting, click “Apply” and return to “Dvr Setting” window. To discard the setting, click “Return” to directly return to “Dvr Setting” window without saving.

◆ Record

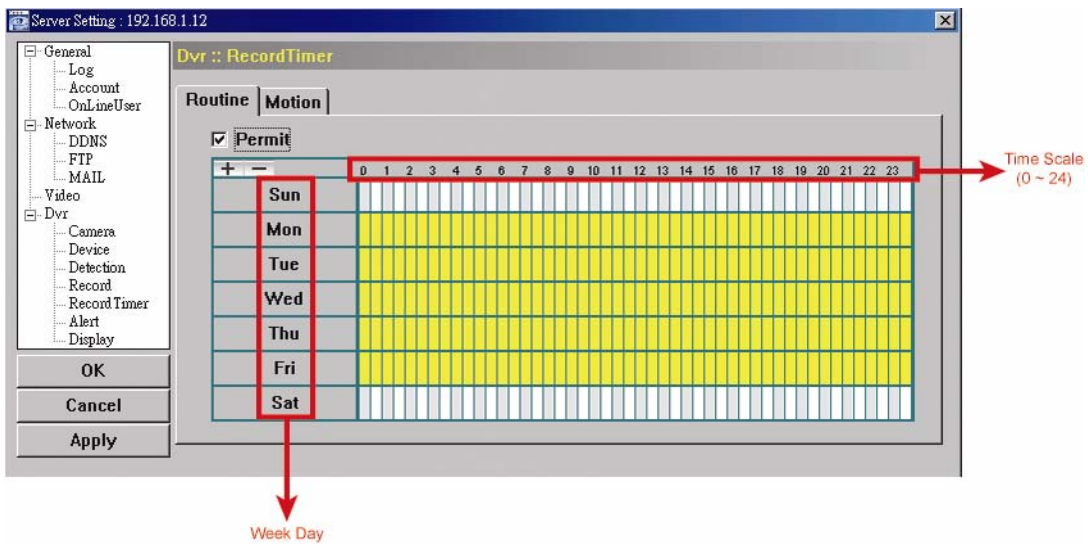
In “Dvr” → “Record”, you will see the following items for DVR record settings.



Function	Description
Image Size / Quality	Choose the image size (FRAME / FIELD / CIF) and quality (BEST / HIGH / NORMAL / BASIC).
Manual Record / Event Record / Timer Record	Select the record type that the DVR will take recording (Yes / No), and select the IPS setting for the selected record type.
Pre-Alarm Record	Check this option if you want to enable the pre-alarm recording function. When any alarm is triggered, the DVR will record 8MB video data before the alarm event is actually happened.
Overwrite	Select “Yes” to enable the HDD overwrite function when the HDD is full, or “No” to disable this function. When this function is on, and the recording and the pre-alarm function are activated, the DVR will overwrite 8GB data from the oldest for continuous recording without notice.

◆ Record Timer

In this menu list, you can set the record schedule for normal recording or motion recording.



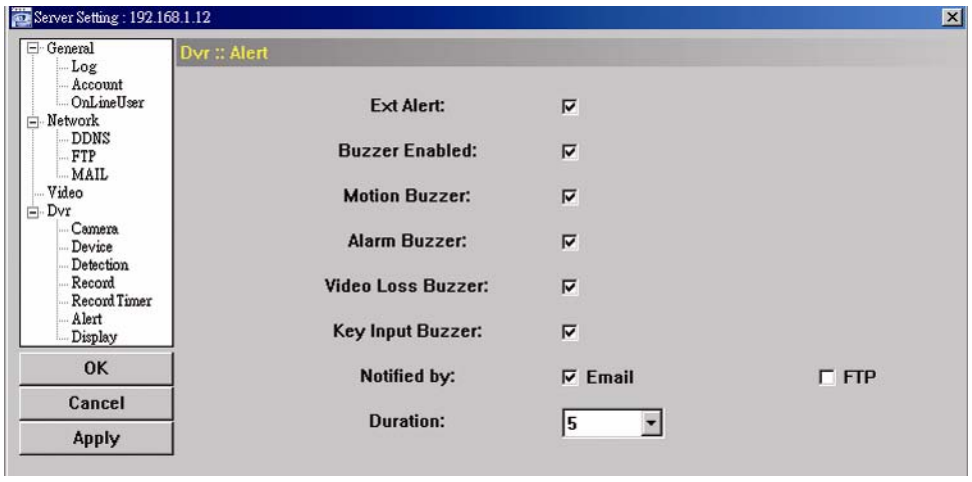
- Permit
  Select this checkbox to allow the record timer setting to be applied to the connected DVR. If this checkbox is deselected, the setting will not be applied to the connected DVR even when you click “Apply” and “OK”.

- Routine / Motion
  Click “Routine” tab to select the time range for continuous recording, or “Motion” tab to select the time range within which the recording will be on when any movement is detected.

- Time Table
  Find the day and time you want to enable the recording. Then, click to select the time interval(s). Each interval represents 30 minutes.
  To enable the recording all the time, click “＋”; to clear the record timer setting, click “－”.

◆ Alert

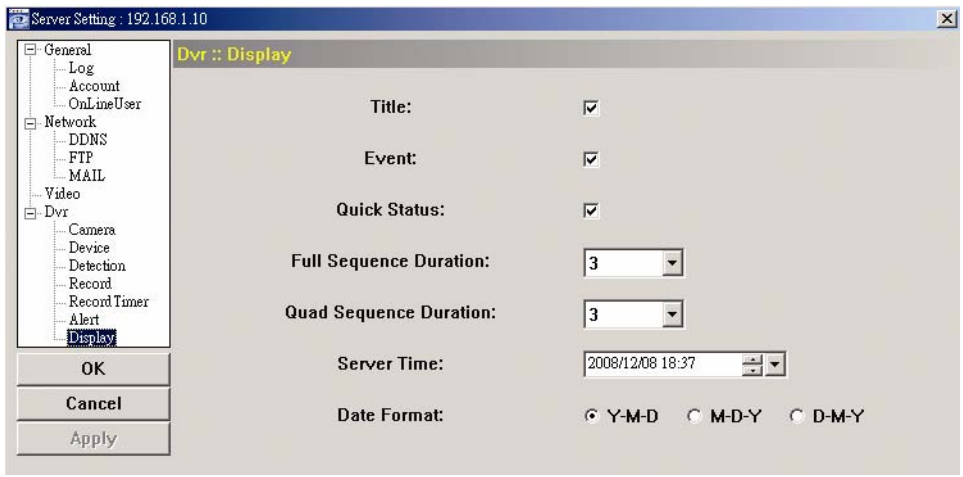
In “Alert”, you can set the DVR to beep for notification when there’s any alert happened. Check the buzzer option you want, and set how long the beep sound will be lasted.



Function	Description
Ext Alert	Check this option to enable the external alert.
Buzzer Enabled	This option must be checked for “Motion Buzzer”, “Alarm Buzzer”, “Video Loss Buzzer”, and “Key Input Buzzer” to take effects.
Motion Buzzer / Alarm Buzzer / Video Loss Buzzer / Key Input buzzer	Check one of these 4 options, and you will hear the beep sound when any movement is detected / the alarm is triggered / video loss occurs / any DVR key is pressed.
Notified by	Select the notification method when any event occurs: Email or FTP.
Duration	Set the alert and buzzers to beep for 5 / 10 / 20 / 40 seconds.

◆ Display

In “Display”, you can choose whether to display some text indication or icons, set the channel display switch time-out, set the DVR time remotely, and select the date format (Y-M-D / M-D-Y / D-M-Y).



Function	Description
Title	Select to display the channel title in the live view.
Event	Select to display the event symbol in the live view.
Quick Status	Select to display the quick status in the live view.
Full Sequence Duration / Quad Sequence Duration	Set the time-out in seconds (3 / 5 / 10 / 15) after which the channel display will be switched by one channel (Full Sequence Duration) or by four channels (Quad Sequence Duration). **Note:** “Quad Sequence Duration” is disabled for the 4CH DVR model.
Server Time	Set the DVR time remotely.
Date Format	Choose the date display format appropriate to your location (Y-M-D, M-D-Y and D-M-Y).

➢ Tools

Click “ ” to upgrade your DVR (Update Server), or select the language of the video viewer (Language).

Note: You need to be a supervisor to operate this function. For details, please see “Account” at page 43.

Note: Do not disconnect the power of your DVR while the upgrade process is in progress, or the DVR

functions may not work properly or be unable to use.

◆ Update Server

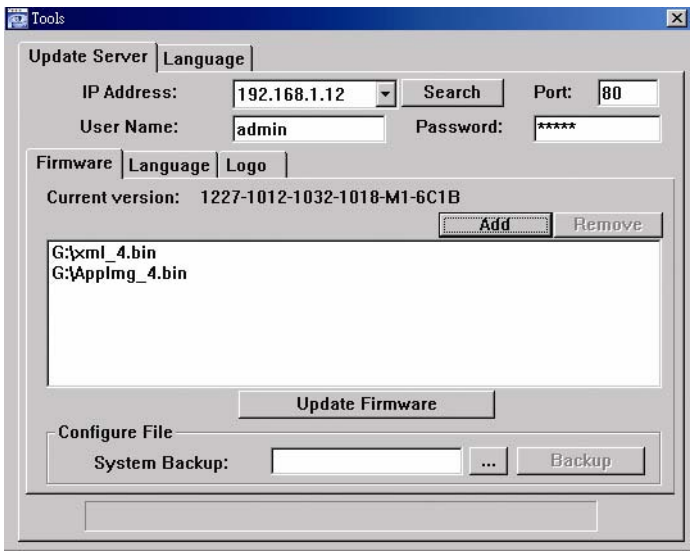
3 update options are available for this function: Firmware, Language and Logo.

Before performing any update, finish the following settings first:

1) Choose the IP address of the DVR whose firmware needs to be updated from the drop-down list, or click “Search” to find.
2) Key in the user name, password and port number used to access your DVR remotely.
3) Select the update option (Firmware / Language / Logo) you want. For details, please see the description below.

• **Firmware**

To upgrade your DVR firmware remotely, click “Firmware” tab, and follow the steps below:



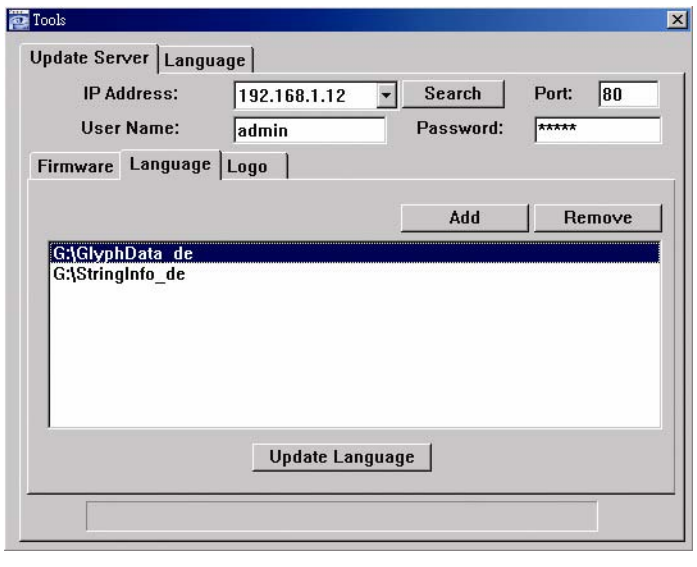
a). In the “Firmware” section, you will see the current firmware version. To upgrade the firmware version of your DVR, click “Add” to locate and select the firmware file. The file will be shown in the firmware list.

b). If you want to backup your system before upgrading the firmware version of your DVR, select “System Backup” in the “Configure File” section, click “**...**” to specify the location for saving system backup, and click “Backup” to start the backup process.

c). To start upgrading the DVR firmware, choose the file from the firmware list, and click “Update Firmware” to start the upgrade process.

• **Language**

To update the DVR OSD language, click “Language” tab, and follow the steps below:



a). Get the language files you want to update from your distributor.

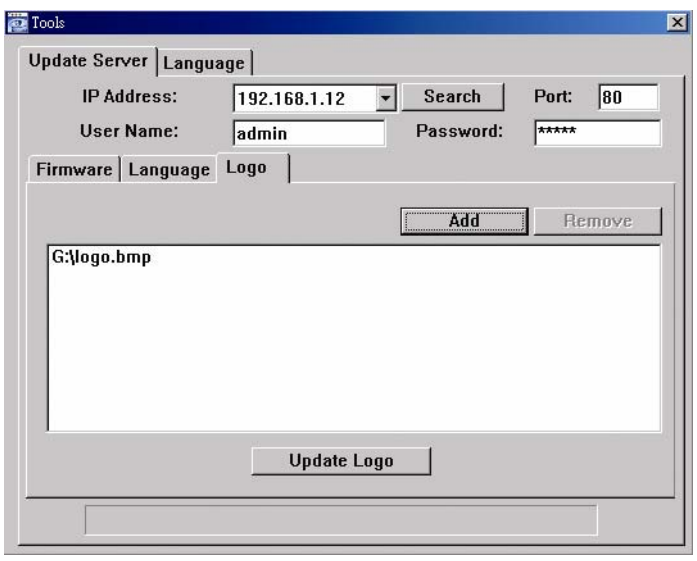
b) Click “Add” to locate and select the files needed. The files will be shown in the list. If you add the wrong file, select it and click “Remove”.

c). To start updating the OSD language, choose the files from the list, and click “Update Language” to

start the upgrade process.

- **Logo**

To replace the logo shown in the DVR boot display, click “Logo” tab, and follow the steps below:



a). Prepare a graphic file in the “BMP” format for replacement.

Note: Use the image software to set the image size to 320 * 240, and save the image as an 8-bit (64-color) image in the "BMP" format.

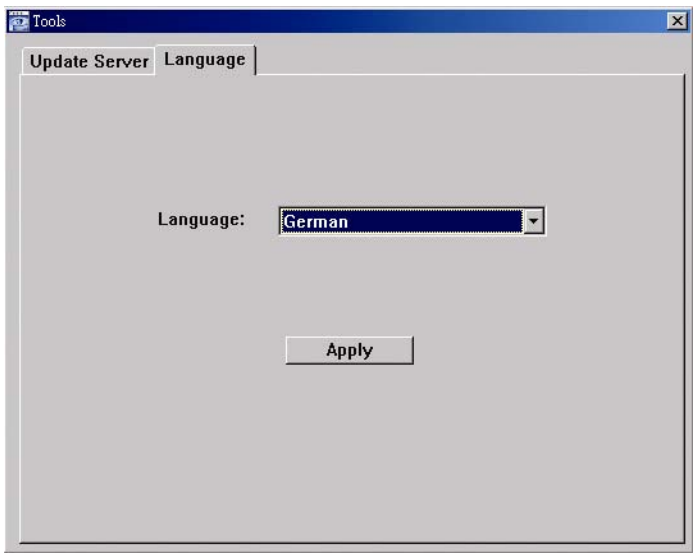
b) Click “Add” to locate and select the graphic file. The file will be shown in the list. If you add the wrong file, select it and click “Remove”.

c). To start updating the logo, choose the file from the list, and click “Update Logo” to start the upgrade process.

◆ Language

This software is available in English / Chinese / French / German / Portuguese / Spanish / Japanese.

Select a language from the drop-down list, and click “Apply”. You will be prompted to restart the application for this change to take effect.

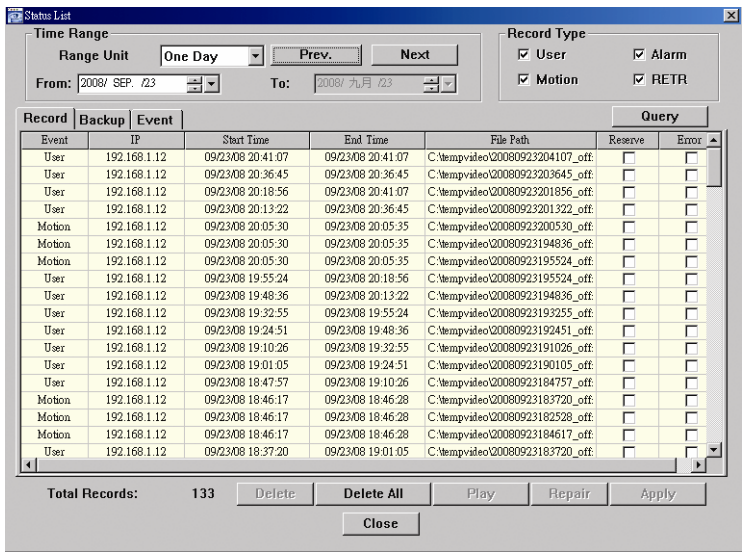


➢ Status List

Click “ ” to view all the event and record logs (All), or search for the specific log(s) by date or by record type (Condition).

There are three types of logs: Event, Record and Backup. To playback the recorded data for a specific record or backup log, select the log, and double-click to start the video playback.

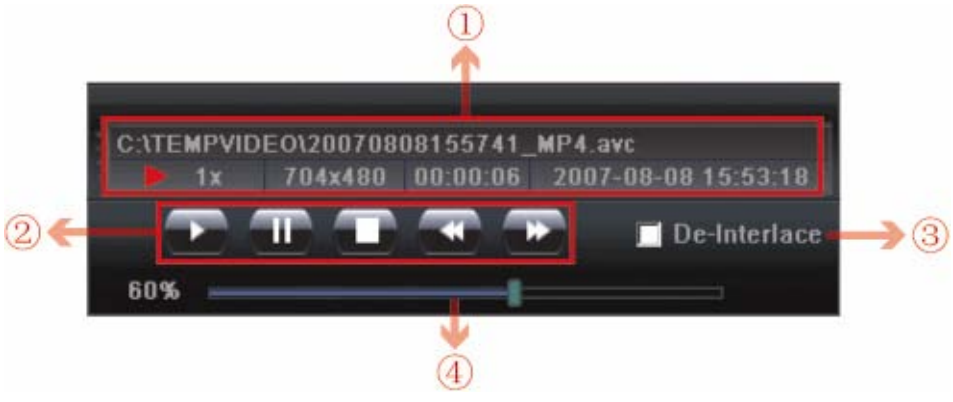
For detailed playback operation, please refer to “Playback” at page 54.



Function	Description
Time Range	To find the specific logs, set the time range (From / To), and the range unit here.
Record Type	Select the record type you want to search (User / Alarm / Motion / RETR).
Query	Click to start sorting the logs specified.
Delete / Delete All	Click “Delete” to remove the selected log(s), or click “Delete All” to clear the current log list. **Tip:** To select more logs all at once, press and hold the “Ctrl” key on your keyboard, and click to select the logs you want to remove.
Play	Click to play the selected record log. The playback panel will be shown for your further operation. For playback details, please refer to Playback Screen” at page 54.
Repair	Click to fix the log with errors.
Close	Click “Close” to quit this window.

◆ Playback Screen

When you select and play the recorded data for a specific log in “ ” → “Record” or “Backup”, you will immediately go into the playback mode, and the following playback panel appears. For the function of each part on the panel, please refer to the following description.



NO.	Function	Description
①	Playback / Download Info Display	This area shows the detailed playback / download information, such as the file name, record date and time, and the speed, etc.
②	Playback Progress Bar	This area shows the playback progress and the progress percentage.
③	De-Interlace	Click to reduce the vibration of the paused picture.
④	Playback Operation	This area is enabled only when the playback is started. (Rewind) / (Forward) / (Stop) / (Pause) / (Play) **Rewind / Forward** Click once to get 2X fast rewind / forward, twice to get 4X, three times to get 8X, and four times to get 16X the highest.

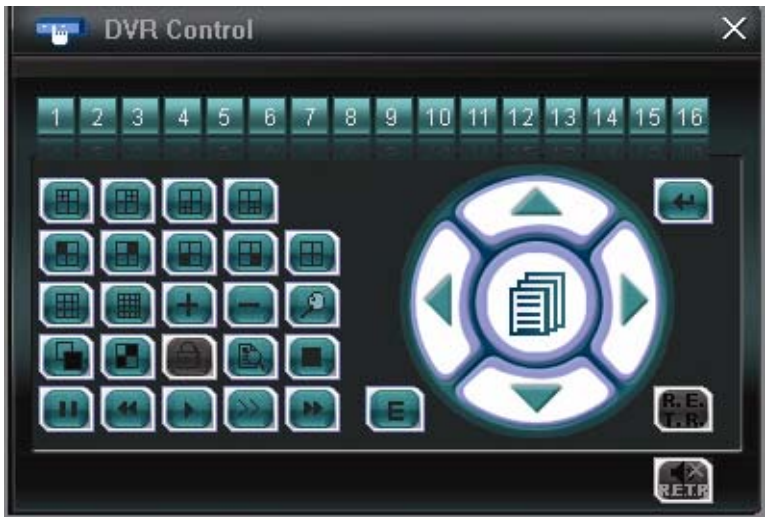
Information

To view the current network connection details, click this button.

DVR Control

When Video Viewer is connected to the DVR, this DVR control panel will be enabled, and you can control the DVR remotely. For the function of each button, please refer to the following description.

Note: The control panel below is taking 16CH DVR model as an example. Some buttons may not be enabled for 8CH or 4CH DVR models.



Function	Description
Channel Selection	Click the channel No. (depending on the DVR model you have) to see the live view of the selected channel.
	Click the view mode you want to see. There are 10 modes for your choice: View CH1, CH2, CH5 and CH6 View CH3, CH4, CH7 and CH8 View CH9, CH10, CH13 and CH14 View CH11, CH12, CH15 and CH16 View the 1st channel of the selected 4-cut view mode View the 2nd channel of the selected 4-cut view mode View the 3rd channel of the selected 4-cut view mode View the 4th channel of the selected 4-cut view mode Click to switch the 4-cut channel display. *This button is available only for selected models.*

Function	Description
	Click to see the 9-cut channel display. Click to see the whole 16 channels. You can also click " " or " " to go to the previous / next channel of the selected channel.
Digital Zoom	Click to zoom in / out the selected channel image.
Full Sequence / Quad Sequence	**<u>Quad Sequence</u>** Click to display the 4 quad display modes one by one. The 1st view is CH1, CH2, CH5 & CH6, the 2nd view is CH3, CH4, CH7 & CH8, the 3rd view is CH9, CH10, CH13 & CH14, and the 4th view is CH11, CH12, CH15 & CH16. When the 4th view is displayed, it will start from the 1st view again. To exit from this display mode, click any other channel display button. **<u>Full Sequence</u>** Click to display each channel one by one, starting from CH1. When the last channel is displayed, it will start from CH1 again. To exit from this display mode, click any other channel display button.
Search	Click " " to enter the DVR full search menu. You can check all the logs here, and select one of them to payback.
Playback	(Stop) / (Pause) / (Rewind) / (Play) / (Slow Playback) / (Forward) **<u>Rewind / Forward</u>** Click once to get 4X fast rewind / forward, twice to get 8X, three times to get 16X, and four times to get 32X the highest. **<u>Slow Playback</u>** Click once to get 4X slow playback and twice to get 8X slow playback.
Menu and Arrow Keys	Click " " (Menu) to enter the menu / exit the menu mode. Click the arrow keys to move the cursor and make the selection: / : Move up / down to select the previous / next menu or sub-menu function, or change the setting. / : Move left / right to the previous / next sub-menu items.
Enter	Click " " to confirm the setting or enter your selection.
Event	Click to get access to the time & event search mode.

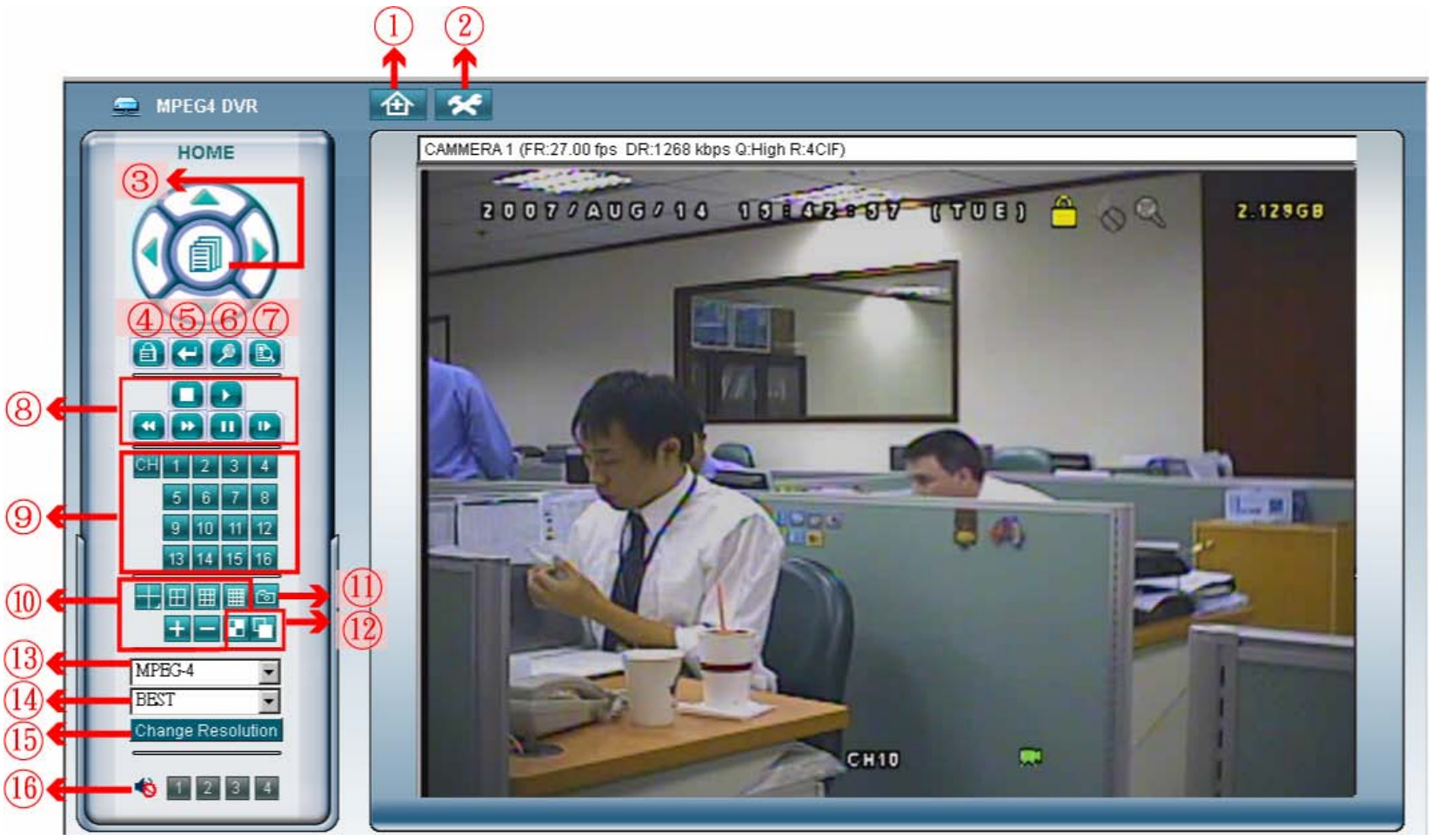
8.2 IE Web Browser

You can view the images or operate your DVR with IE web browser.

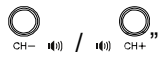
Note: The supported PC operation systems are Windows 2000 and Windows XP.

Step 1: Key in the IP address used by your DVR in the URL address box, such as 60.121.46.236, and press Enter. You will be prompted to enter the user name and password to access the DVR.
If the port number your DVR used is NOT 80, you need to key in the port number additionally. The format is ***ipaddress:portnum***. For example, for IP address 60.121.46.236 and port No. 888, please key in ”http://60.121.46.236:888” into the URL address box, and press “Enter”.

Step 2: Enter the user name and password, the same as the ones used at AP login, and press “OK”. You will see a similar screen as the following when the login information is correct.



NO.	Function	Description
1	Home	Click to go to the main page of the DVR
2	Config.	Click to go to the detailed DVR setting.
3	Menu and Arrow Keys	Click to enter the menu / exit the menu mode. Click the arrow keys to move the cursor and make the selection: / : Move the cursor up / down to select the previous / next menu or sub-menu function, or change the setting. / : Move the cursor left / right to the previous / next sub-menu items.
4	Key Lock	Click to enable the DVR key lock function. To unlock the DVR, key in your password, and click .

NO.	Function	Description
5	Enter	Click to confirm the setting or enter your selection.
6	Digital Zoom	Click to zoom in / out the selected channel image.
7	Search	Click to enter the DVR full search menu. You can check all the logs here, and select one of them to payback.
8	Playback control buttons	(Stop) / (Play) / (Rewind) / (Forward) / (Pause) / (Slow Playback) **Rewind / Forward** Click once to get 4X fast rewind / forward, twice to get 8X, three times to get 16X, and four times to get 32X the highest. **Slow Playback** Click once to get 4X slow playback and twice to get 8X slow playback.
9	Single Channel Selection	Click the channel No. (CH1 ~ CH16) to see the live view of the selected channel. You can also click or to go to the previous / next channel of the selected channel.
10	Display Mode	Click the display mode you want to see. There are 3 modes for your choice: Click / / to show 4-cut / 9-cut / 16-cut display.
11	Snapshot	Click to take a snapshot for the current view, and open another browser window to display the captured image.
12	Quad Sequence / Full Sequence	**Quad Sequence** Click to display the 4 quad display modes one by one. The 1st view is CH1, CH2, CH5 & CH6, the 2nd view is CH3, CH4, CH7 & CH8, the 3rd view is CH9, CH10, CH13 & CH14, and the 4th view is CH11, CH12, CH15 & CH16. When the 4th view is displayed, it will start from the 1st view again. To exit from this display mode, click any other channel display button. **Full Sequence** Click to display each channel one by one, starting from CH1. When CH16 is displayed, it will start from CH1 again. To exit from this display mode, click any other channel display button.
13	Web Transmission	**MPEG4 / JPEG / QuickTime** QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in you operation system first. When "QuickTime" is selected, you will be promoted to enter the user name and password to access the server of the DVR.
14	Change Quality	**BEST / HIGH / NORMAL / BASIC** Click to change the image quality.
15	Change Resolution	**4 CIF / CIF** Click to change the image resolution (4CIF: 720*480 / CIF: 352*240)
16	Audio Channel Selection	 To hear the audio for a channel that supports audio recording in the live or playback mode, click 1, 2, 3 or 4 to hear the audio from the audio channel 1, 2, 3 or 4. This function is not available for 4CH DVR model without a fan. For the audio channel(s) of each model, please see "11).  " in "2.1 Front Panel" at page 4. means the audio channel is not connected to the camera supporting audio.

8.3 QuickTime Player

You can also use the QuickTime player to remotely log into the DVR and check the live view only.

Note: QuickTime is Apple's multimedia software. You need to have QuickTime installed in you operation system first, and you can access the DVR to see the live view.
If you have installed QuickTime, please skip Step 1.

Step 1: Go to Apple's official website to download QuickTime. The website address is as follows:
http://www.apple.com/quicktime/win.html
a). Click "Download" to go into the download page, and select to download the free player.
b). Leave your Email address, and click "Free Download Now" to download the latest QuickTime player.
c). When the download is completed, execute the "QuickTimeInstaller.exe" file, and follow the on-screen instructions to finish the installation procedure.

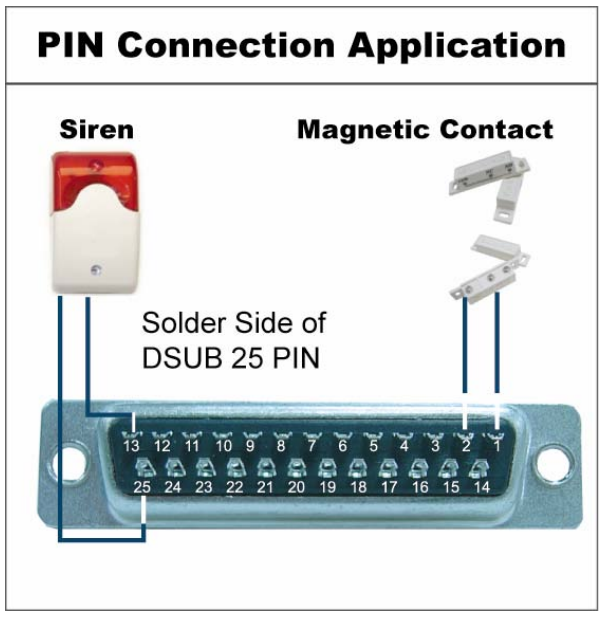
Step 2: Open your QuickTime player. Select "File" → "Open URL", and key in the URL address.
The URL format is "rtsp://**ipaddress**/live/mpeg4" (For example, "rtsp://**59.124.231.75**/live/mpeg4").
Click "OK" to continue.

Step 3: A pop-up window will appear and prompt you to enter the authentication information. Key in the user name and password for accessing your DVR. The user name and password are the same as the ones you use to log into Video Viewer.
If the information is correct, click "OK" to go on. If not, click "Cancel" to quit the accessing.

Step 4: When the login is successful, you will see a similar screen as the following.

APPENDIX 1 PIN CONFIGURATION

- **For 16CH DVR**

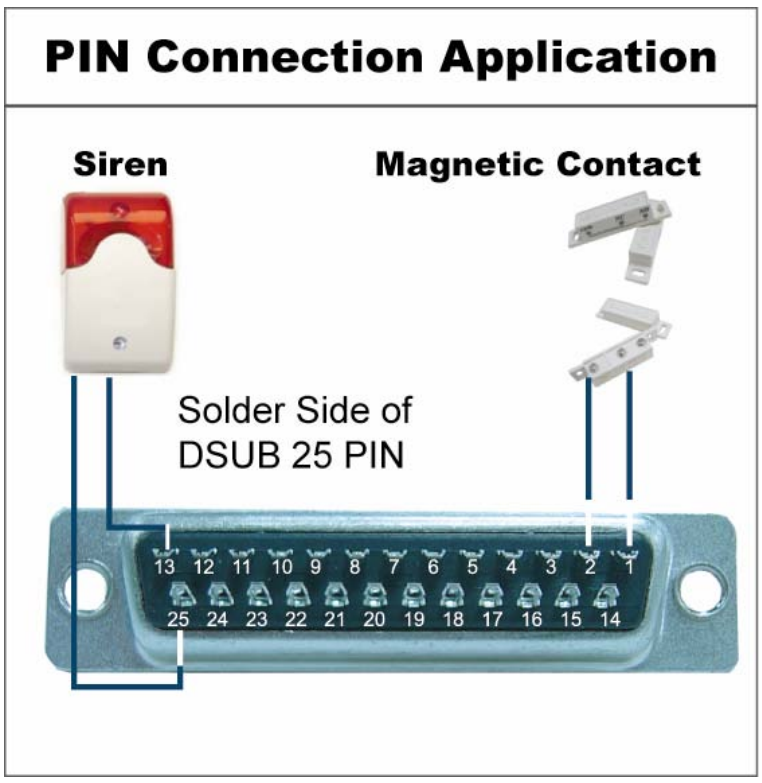

PIN Connection Application
Siren
Magnetic Contact
Solder Side of
DSUB 25 PIN
13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14

Siren: When the DVR is triggered by alarm or motion, the COM connects with NO and the siren with strobe starts wailing and flashing.

Magnetic Contact: When the magnetic contact is opened, the alarm will be triggered and the recording is on.

PIN	FUNCTION	DESCRIPTION
1	GND	GROUND
2~9	ALARM INPUT	Connect ALARM INPUT (PIN 2 -- 9) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on. PIN 2 is Alarm 1. Once the alarm is triggered, the CH1 of the DVR will start alarm-triggered recording. PIN 3 is Alarm 3. Once the alarm is triggered, the CH3 of the DVR will start alarm-triggered recording. PIN 4 is Alarm 5. Once the alarm is triggered, the CH5 of the DVR will start alarm-triggered recording. PIN 5 is Alarm 7. Once the alarm is triggered, the CH7 of the DVR will start alarm-triggered recording. PIN 6 is Alarm 9. Once the alarm is triggered, the CH9 of the DVR will start alarm-triggered recording. PIN 7 is Alarm 11. Once the alarm is triggered, the CH11 of the DVR will start alarm-triggered recording. PIN 8 is Alarm 13. Once the alarm is triggered, the CH13 of the DVR will start alarm-triggered recording. PIN 9 is Alarm 15. Once the alarm is triggered, the CH15 of the DVR will start alarm-triggered recording.
10	PIN OFF	NA
11	PIN OFF	NA
12	RS485-A	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller, or controls PTZ cameras.
13	EXTERNAL ALARM NO	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.
14	PIN OFF	NA
15~22	ALARM INPUT	Connect ALARM INPUT (PIN 15 – 22) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on. PIN 15 is Alarm 2. Once the alarm is triggered, the CH2 of the DVR will start alarm-triggered recording. PIN 16 is Alarm 4. Once the alarm is triggered, the CH4 of the DVR will start alarm-triggered recording. PIN 17 is Alarm 6. Once the alarm is triggered, the CH6 of the DVR will start alarm-triggered recording. PIN 18 is Alarm 8. Once the alarm is triggered, the CH8 of the DVR will start alarm-triggered recording. PIN 19 is Alarm 10. Once the alarm is triggered, the CH10 of the DVR will start alarm-triggered recording. PIN 20 is Alarm 12. Once the alarm is triggered, the CH12 of the DVR will start alarm-triggered recording. PIN 21 is Alarm 14. Once the alarm is triggered, the CH14 of the DVR will start alarm-triggered recording. PIN 22 is Alarm 16. Once the alarm is triggered, the CH16 of the DVR will start alarm-triggered recording.
23	PIN OFF	NA
24	RS485-B	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller, or controls PTZ cameras.
25	EXTERNAL ALARM COM	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.

- **For 8CH DVR**

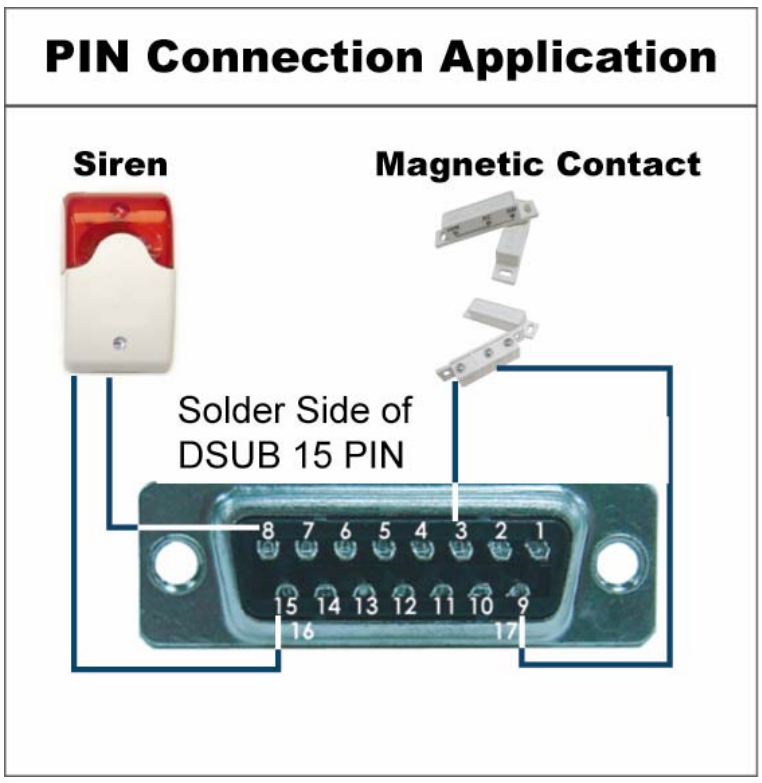

PIN Connection Application
Siren
Magnetic Contact
Solder Side of
DSUB 25 PIN
13 12 11 10 9 8 7 6 5 4 3 2 1
25 24 23 22 21 20 19 18 17 16 15 14

Siren: When the DVR is triggered by alarm or motion, the COM connects with NO and the siren with strobe starts wailing and flashing.

Magnetic Contact: When the magnetic contact is opened, the alarm will be triggered and the recording is on.

PIN	FUNCTION	DESCRIPTION
1	GND	GROUND
2~5	ALARM INPUT	Connect ALARM INPUT (PIN 2 – 5) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on. PIN 2 is Alarm 1. Once the alarm is triggered, the CH1 of the DVR will start alarm-triggered recording. PIN 3 is Alarm 3. Once the alarm is triggered, the CH3 of the DVR will start alarm-triggered recording. PIN 4 is Alarm 5. Once the alarm is triggered, the CH5 of the DVR will start alarm-triggered recording. PIN 5 is Alarm 7. Once the alarm is triggered, the CH7 of the DVR will start alarm-triggered recording.
6 ~ 11	PIN OFF	NA
12	RS485-A	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller, or controls PTZ cameras.
13	EXTERNAL ALARM NO.	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.
14	PIN OFF	NA
15~18	ALARM INPUT	Connect ALARM INPUT (PIN 15 – 18) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on. PIN 15 is Alarm 2. Once the alarm is triggered, the CH2 of the DVR will start alarm-triggered recording. PIN 16 is Alarm 4. Once the alarm is triggered, the CH4 of the DVR will start alarm-triggered recording. PIN 17 is Alarm 6. Once the alarm is triggered, the CH6 of the DVR will start alarm-triggered recording. PIN 18 is Alarm 8. Once the alarm is triggered, the CH8 of the DVR will start alarm-triggered recording.
19~23	PIN OFF	NA
24	RS485-B	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller, or controls PTZ cameras.
25	EXTERNAL ALARM COM	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.

- **For 4CH DVR**



Siren: When the DVR is triggered by alarm or motion, the COM connects with NO and the siren with strobe starts wailing and flashing.

Magnetic Contact: When the magnetic contact is opened, the alarm will be triggered and the recording is on.

PIN	FUNCTION	DESCRIPTION
1~2	PIN OFF	NA
3~6	ALARM INPUT	Connect ALARM INPUT (PIN 3 – 6) and GND (PIN 9) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on. PIN 3 is Alarm 1. Once the alarm is triggered, the CH1 of the DVR will start alarm-triggered recording. PIN 4 is Alarm 2. Once the alarm is triggered, the CH2 of the DVR will start alarm-triggered recording. PIN 5 is Alarm 3. Once the alarm is triggered, the CH3 of the DVR will start alarm-triggered recording. PIN 6 is Alarm 4. Once the alarm is triggered, the CH4 of the DVR will start alarm-triggered recording.
7	NC	Under the normal operation, COM connects with NC and disconnects from NO. But when any alarm is triggered, COM disconnects with NC and connects with NO. Attention: The voltage restriction is under DC24V 1A.
8	NO	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.
9	GND	GROUND
10	RS485-B	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller.
11	RS485-A	Using RS-485 serial communication signals, DVR can be controlled by keyboard controller.
12~14	PIN OFF	NA
15	EXTERNAL ALARM COM	Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO. Attention: The voltage restriction is under DC24V 1A.

APPENDIX 2 COMPATIBLE USB FLASH DRIVE BRAND

Please upgrade the firmware of the DVR to the latest version to ensure the accuracy of the following table. If the USB flash drive is not supported by the DVR, the "USB ERROR" message will be shown on the screen.

Note: Please use your PC to format the USB flash drive as "FAT32".

MANUFACTURER	MODEL	CAPACITY
Transcend	JetFlash 110	256MB
		512MB
	JetFlash V30	1GB
	JetFlash 150	1GB
	JetFlash V20	1GB
	JFV10	4GB
Kingston	DataTraveler DTI KUSBDTI/256FE	256MB
		512MB
		2GB
PQI	Cool Drive (U339)	256MB
		512MB
Apacer	HANDY STENO HF202	256MB
		512MB
	USB2.0 Flash Drive HS120	1GB
	USB2.0 Flash Drive AH320	1GB
	AH221	2GB
Adata	USB2.0 Flash Disk-PD1	1GB
	USB2.0 Flash Disk-RB15	1GB
	USB2.0 Flash Disk-PD4	1GB
	PD10	2GB
Sandisk	Cruzer Micro	128MB
		256MB
		512MB
		1GB
		4GB

APPENDIX 3 COMPATIBLE HDD BRAND

Please upgrade the firmware of the DVR to the latest version to ensure the accuracy of the following table.

- **For IDE HDD**

MANUFACTURER	MODEL	CAPACITY	ROTATION
HITACHI	Deskstar 7K250, HDS722516VLAT20	160GB	7200 rpm
	HDS722516VLAT80	160GB	7200 rpm
	HDS722516DLAT80	160GB	7200 rpm
	Deskstar 7K250, HDS722525VLAT80	250GB	7200 rpm
	Deskstar 511DHT0021	500GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y160L0	160GB	7200 rpm
	DiamondMax 10 6L160R0	160GB	7200 rpm
	DiamondMax 10 6L200R0	200GB	7200 rpm
	DiamondMax 10 6L200PO	200GB	7200 rpm
	MaxLine Plus Ⅱ, Model#7Y250P0	250GB	7200 rpm
	DiamondMax 10 6L250R0-3	250GB	7200 rpm
	DiamondMax 10 HDMA6L300RO-3	300GB	7200 rpm
Seagate	Barracuda 7200.7 Plus, ST3160023A	160GB	7200 rpm
	Barracuda 7200.8 ST3200826A	200GB	7200 rpm
	Barracuda 7200.8 ST3250826A	250GB	7200 rpm
	Barracuda 7200.8 ST3300831A/P	300GB	7200 rpm
	Barracuda 7200.8 ST3400832A/P	400GB	7200 rpm
	7200.9 ST3200827A/P	200GB	7200 rpm
	7200.10 ST3250620A/P	250GB	7200 rpm
	7200.10 ST3320620A/P	320GB	7200 rpm
Western Digital	Caviar SE WD1600JB	160GB	7200 rpm
	Caviar WD2000BB-00DWA0	200GB	7200 rpm
	Caviar SE WD2500JB	250GB	7200 rpm
	Cavir RE WD2500SB-01KBC0	250GB	7200 rpm

- **For SATA HDD**

MANUFACTURER	MODEL	CAPACITY	ROTATION
HITACHI	HDS721680PLA380	80GB	7200 rpm
	HDT725032VLA360	320GB	7200 rpm
	HDS721010KLA330	1000GB	7200 rpm
Maxtor	STM3500320AS	500GB	7200 rpm
	STM3750330AS	750GB	7200 rpm
Seagate	ST31000340AS	1000GB	7200 rpm
	ST31000340SV	1000GB	7200 rpm
Western Digital	WD5000AACS	500GB	7200 rpm
	WD5000KS	500GB	7200 rpm
	WD7500AAKS	750GB	7200 rpm
	WD10EACS	1000GB	7200 rpm

APPENDIX 4 RECORDING TIME TABLE

The testing environment for this recording time table is office, for reference only

Recording time varies depending on the following three factors:

- Different camera resolution;
- Different picture complexity;
- Different frequency of the object movement

Note: This recording time table applies to 4CH / 8CH / 16CH DVR.

Record mode	Quality	IPS	GB/hour	750GB record time(hour)	750GB record time(day)
Frame	Best	25	1.77	423.729	17.7
		12	1.23	609.756	25.4
		7	0.68	1102.941	46.0
		3	0.48	1562.500	65.1
	High	25	1.32	568.182	23.7
		12	0.83	903.614	37.7
		7	0.54	1388.889	57.9
		3	0.43	1744.186	72.7
	Normal	25	1.1	681.818	28.4
		12	0.7	1071.429	44.6
		7	0.45	1666.667	69.4
		3	0.35	2142.857	89.3
	Basic	25	0.912	822.368	34.3
		12	0.57	1315.789	54.8
		7	0.4	1875.000	78.1
		3	0.3	2500.000	104.2
Field	Best	50	1.74	431.034	18.0
		25	1	750.000	31.3
		12	0.672	1116.071	46.5
		7	0.468	1602.564	66.8
	High	50	1.39	539.568	22.5
		25	0.852	880.282	36.7
		12	0.552	1358.696	56.6
		7	0.408	1838.235	76.6
	Normal	50	1.333	562.641	23.4
		25	0.744	1008.065	42.0
		12	0.516	1453.488	60.6
		7	0.372	2016.129	84.0
	Basic	50	1.025	731.707	30.5
		25	0.648	1157.407	48.2
		12	0.41	1829.268	76.2
		7	0.3	2500.000	104.2
CIF	Best	100	2.4	312.500	13.0
		50	1.4	535.714	22.3
		25	0.78	961.538	40.1
		12	0.53	1415.094	59.0
	High	100	1.84	407.609	17.0
		50	1.34	559.701	23.3
		25	0.65	1153.846	48.1

Record mode	Quality	IPS	GB/hour	750GB record time(hour)	750GB record time(day)
		12	0.42	1785.714	74.4
	Normal	100	1.584	473.485	19.7
		50	0.9	833.333	34.7
		25	0.545	1376.147	57.3
		12	0.36	2083.333	86.8
	Basic	100	1.21	619.835	25.8
		50	0.7	1071.429	44.6
		25	0.43	1744.186	72.7
		12	0.3	2500.000	104.2

APPENDIX 5 TROUBLESHOOTING

Please refer to the table below for easy troubleshooting. The table describes some typical problems and also their solutions. Please check them before calling your DVR dealer.

- **FAQ (Frequently ask question)**

Questions	Solutions
No power	Check power cord connection.
	Confirm that there is power supplied from the outlet.
DVR is not working when pressing any button	You might be under “Key Lock” mode. Press any key and enter the password to exit this mode.
HDD detection failed	Replace with another HDD for testing.
	Replace with another HDD cable for testing.
	Make sure HDD “Master”, “Slave” mode is correctly set.
Can’t detect your USB flash drive	Replace with another USB flash drive for testing.
	Format the USB flash drive as FAT32 format and try again.
No live images	Confirm the camera is power supplied.
	Check the setting of the camera lens.
	Check the monitor’s video cable and connection.
	Check the camera’s video cable and connection.
B/W or flashing live images	Make sure the DVR video system conforms with your local system as follows: 4. Turn off the DVR. 5. Connect your camera(s) to the DVR and power supply, and turn on the DVR again. The DVR will automatically detect the video system (NTSC/ PAL) in your region.
No recorded video	Check if the HDD is installed and connected properly.
	Check the “MANUAL RECORD ENABLE” is set to “ON” , and the record function in the “CAMERA” menu is set to “ON” too.
Timer recording is not working	Check if “TIMER RECORD ENABLE” option is set to “ON” and the timer schedule has been arranged.
Motion detection recording is not working	Check if “EVENT RECORD ENABLE” option is set to “ON”.
	Check the detection function “DET” is set to “ON”.
	Check the detection area “AREA” has been setup.
Can’t play the recorded data on my DVR	There must be at least 8192 images of recorded data for playback to work properly. If not, your DVR will stop the playback. For example, if the IPS is set to 30, the recording time should be at least 273 seconds (8192 images / 30 IPS) for the playback to work properly.
Can’t backup the video with audio	Make sure the audio cameras are connected to the DVR channels which support the audio function (CH1, CH2, CH3 and CH4).
Can’t view the DVR images over the network with IE web browser	Check the DVR firmware version.
	Please choose to allow the web browser ActiveX or applet in the pop-out message.
Failed to backup the recorded files of the DVR from remote PC side. (For details, please see “Network Backup” at page 37.)	You need to be a supervisor to operate this function. For details, please see “Account” at page 43.
	Check if the network connection information is correct (IP Address / Port / User Name / Password).
	Specify the hard disk (HDD Number) and channel number (Channel) within which have the recorded data you need.
Failed to upgrade the firmware / OSD file	Check the USB flash drive is formatted to FAT32.
	Check the firmware / OSD file is correct.
Can’t use the IR remote control	Check whether if the batteries are installed or not.
	Aim at the IR receiving zone and try again.
	Check the lock button on the DVR front panel is switched to the right position.

APPENDIX 6 DEFAULT VALUE

- **Default Value**

Items	Default Value
• **DVR Side:**	
ADMIN Password	0000
Channel Title Display	ON
Event Status Display	ON
Image Size	CIF
Image Quality	BEST
Image Per Second (IPS)	120 (NTSC) / 100 (PAL)
Record Timer	OFF
Detection Timer	OFF
Date Format	Y/M/D
Daylight Saving	OFF
Camera – BRIG (Brightness)	128
Camera – CONT (Contrast)	098
Camera – SATU (Saturation)	128
Camera – HUE	128
Camera – COV (Covert Screen)	OFF
Camera – REC	ON
Detection	OFF
Detection - LS	07
Detection - SS	03
Detection - TS	02
Detection - RE	10
Detection - Alarm	OFF
Alert Buzzer	ON
Alert Buzzer Duration	5 seconds
Network - IP Address	192.168.1.10
Port	80
De-interlace	ON
Quad Dwell Duration	3 seconds
Full Screen Dwell Duration	3 seconds
Manual/ Event/ Timer Record	ON
Event Record IPS	120 (NTSC) / 100 (PAL)
Timer Record IPS	120 (NTSC) / 100 (PAL)
Pre-alarm Record	ON
Serial Type	RS485
Baud Rate	2400
Host ID	0
Auto Keylock (SEC)	30
Language	English (Multi-lingual OSD selectable)
• **AP Side:**	
User Name	admin
Password	admin
Port	80
IP Address	192.168.1.10